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**An Evaluative Survey of the Role of INSET in
Managing Educational Innovations in Libyan Schools**

By

Mohamed A. M. Kshir

A thesis submitted in partial fulfilment of the
requirements for the degree of Doctor of Philosophy

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School of Education

The University of Durham

1999



27 JAN 2000

DEDICATION

To my wife with love and my children Haithem, Hadeel and Ha'el.

ABSTRACT

The exponential rate, and structural nature of, change in Libya - demographic, social, cultural, economic, political, infrastructural - have placed a massive strain on its education service to cope with these changes. Currently teachers in Libya are experiencing serious problems in meeting the human capital requirements of Libyan society. Curriculum initiatives are being introduced into Libya with an inadequate support base. As a result there are serious problems currently facing teachers in Libya. They are ill-equipped to cope with the current and prospective demands on education and its ability to service the changes in Libya. In particular the study suggests the need for hugely increased, carefully targeted and efficient in-service (INSET) provision. Through a comprehensive survey, the first to be undertaken in Libya, this thesis identifies the problems that teachers face in Libya, and outlines ways in which INSET can be provided and organised to meet these needs. This thesis 'maps the field' of problems, change and INSET in Libya. Recommendations are made to improve INSET in Libya and a model of person-centred change is provided that is based on a large-scale yet person-centred survey. Conclusions are drawn for change theory and practice that include considerable attention to needs analysis. Common problems and features of INSET are identified, that pattern themselves regardless of characteristics of the sample. The need for increased, differentiated, targeted and person-centred INSET is established, and implications are drawn for teachers, providers of INSET, inspectors and quality assurance. The study indicates how 'top-down' models of change can dovetail with 'bottom-up' models of change, and where INSET is located within these.

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DECLARATION

This thesis results entirely from my own work and not been offered previously in candidature for any other degree or diploma.

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CHAPTER

1

THE CONTEXT OF THE STUDY

Background to the study

This research is concerned with the role of in-service education of teachers (INSET) in managing innovations and change in school. For many years the education service in Libya has been operating in a climate of massive and rapid change, a climate which seems certain to continue into the foreseeable future. In a climate that is changing, both socially and technologically, education has a crucial part to play in nurturing generations of people capable of absorbing, responding to and inaugurating rapid change, and contributing to the process of social and economic development in Libya. The continual process of adjustment required on the part of all those within the service has to be planned and catered for.

The case for being proactive and reactive to change does not need to be made; change is ubiquitous and change in Libya is exponential. No part of Libyan society, culture, economics and politics is untouched by change. In this situation, education in Libya has an enormous role to play in the construction and reconstruction of the country. The massive demographic upheavals in Libya, in tandem with huge economic and infrastructural changes, have contributed to an already existing climate of change in Libya. This study will demonstrate that, though Libya has a thousand year history of change, changes on the scale currently being faced, are entirely new to the country.

Education is in the vanguard of change in Libya. The demands for a skilled workforce to meet changing economic and employment requirements combine with a huge upsurge in the numbers of school-age children for the foreseeable future to produce a demand on the education system in Libya as never before. Coupled with this, the *rate* of change in Libya has outstripped massively the ability of the education system and

its workforce to keep pace with the nature, amount, speed, contents and range of changes in Libya. There is a vital, huge and increasing need for teachers to meet the demands of the changes in Libya.

At present there are serious shortcomings in the abilities of teachers to meet the demands that are placed on them. This manifests itself not only in the level of qualification and expertise of teachers, but in their abilities to keep pace with the pressure on the education system. In Libya these issues have been recognised for some time, though how to address them has been met only minimally in the education service through random, uncoordinated, inefficient, poorly targeted, unresponsive, irrelevant and inappropriate INSET that has been so limited as to be virtually non-existent for the vast majority of teachers in Libya. Not only is INSET insufficient to service the existing educational requirements of teachers (a deficit model, curing deficiencies in teachers), but the notion of requisite continuing professional development (CPD) as a positive, ongoing, developmental, non-deficiency model is unknown in Libya. The whole field of INSET in Libya is an almost unknown concept. The pressure for change in society has impacted on education to exert huge pressure on teachers, and the need for INSET now occupies a central position in the educational agenda of Libya.

The argument in the thesis

The thesis suggests that change and innovation are endemic to Libya, though their current scale, scope and rate are unprecedented. This is established in two ways. *Firstly*, a short review of the literature on change is undertaken that is intended to reveal its multi-dimensionality and complexity - there are several key elements in change. From this review it is clear that: (a) there is a need for this complexity of change to be addressed in the education service; (b) there is a need for INSET to service this change; (c) it is essential to adopt a person-centred view of managing change and innovation. *Secondly*, an historical and contemporaneous account of Libya is provided, which shows clearly that a major and enduring characteristic of Libya is its history of change, be it political, social, cultural and, more recently, economic and demographic. What we currently see Libya, it is argued, is a coming-together of so many forces for, and areas of, change as to render the education service itself seriously in need of radical change and innovation. This impacts not only on initial teacher

education but also, and significantly for this study, on INSET, given that there is a huge pool of teachers whose knowledge, skills, abilities and background are currently inadequate for meeting new innovations in education. It is against this background that the need for INSET is established.

Taking these three significant issues here - (i) the need to recognise the complexities of change; (ii) the need for INSET; (iii) the need to adopt a person-centred view of change - the argument in the thesis is that it is essential to gain from the major participants in the schools' service (the teachers and those who work with teachers) their views on: (a) what the current problems are that teachers face in meeting the existing demands in schools and the demands of change; (b) what INSET is required to cope with these demands; and (c) how INSET can be most effectively organised to meet teachers' needs and to be responsive to identified problems and changes.

Effective change, it is argued, needs to commence with a careful analysis of the current situation through the eyes of the participants. It is argued that this resonates with the view that effective change is responsive to 'real needs' (Dalin *et al*, 1993; Morrison, 1998) and that the people who are in the best position to identify real needs are practitioners (Dalin *et al*, 1993; Wickens, 1995; Morrison, 1998). The intention is to identify, through persistent analysis, actual causes, actual needs, and real solutions, in order to guarantee effective change. These matters have never been undertaken in Libya. Hence there is a need to map in outline form the overall picture of the problems that teachers face in schools. Further, there is a need to map, in outline form, the current and possible fields and organisation of INSET in Libya. Finally there is a need to make recommendations for the development of effective INSET to be responsive to identified needs.

The argument here is that it is inadequate simply to say that teachers need INSET to service policy initiatives; rather, it is argued, INSET and its associated change have to commence with, and take seriously, the *actual* problems that teachers face or else INSET will be unresponsive, cosmetic, have little impact, and will fail to build in the involvement and ownership of participants - a key element of successful change - it will be 'bolt-on' rather than 'built-in' and therefore is unlikely to solve real problems. A problem-solving model of change has to identify real problems as well as to embrace policy initiatives. This is an important element of the argument in this thesis, and it impacts on the empirical work, for the opening part of the survey asks

respondents to identify their *actual* problems as the basis, or starting point, for development work through INSET.

Taking as central the need to construct an outline map of problems, needs, INSET and its organisation, this argues not only for empirical work to be undertaken but that such empirical work requires a survey approach with a wide, representative, stratified sample in the interests of generalizability. Further, such empirical work, to be faithful to the person-centredness of change, has to ensure that the participants' views figure centrally in the sampling.

Arising from the empirical data, and coupling this with (a) the literature review on change and INSET and (b) the review of the Libyan context, the argument in the thesis suggests that though targeted INSET is required to meet the differential requirements of teachers in Libya, nevertheless the demands on teachers are so great and so clearly patterned across the sample, that major common areas of INSET and its organisation can be identified regardless of several nominal characteristics of the sample. This suggests a clear set of priorities for policy makers, organisers and providers of INSET, contents of INSET, patterns of attendance, pedagogy and evaluation.

The literature on change and innovation suggests that they are dynamic and evolutionary, set into a time frame. The implications of this resonate with development planning to suggest that it is important to identify immediate, short-term, mid-term and long-term priorities for INSET. The closing chapter of the thesis addresses these points and sets its recommendations within a time frame. Hence the focus, the methodology (the survey approach), the instrumentation (questionnaire), the rationale and outcomes of the thesis are firmly underpinned themselves by a theory of change and innovation that are set out in chapter two. This thesis, then, is itself a model of change, commencing with a needs analysis, a survey to construct a situational analysis, and the location of change within the perspectives of participants. The thesis, then, models how a person-centred view of change and innovation can be translated into practice.

Teachers in Libya and elsewhere have a key role to play in this complex education system, and they are facing challenging issues (Bellon *et al.*, 1992).

Teachers themselves need opportunities for INSET as part of their personal and professional development (Glatter *et al.*, 1989:334).

For example, in UK the introduction of the National Curriculum (NC) with all its assessment procedures has called for training teachers who can contribute to effective NC change. The same applied to Libya, 1986/87, when the National Curriculum for elementary education and 1988/89 for secondary education was changed.

The case of INSET rests on the needs of the education service, of individual schools and of teachers themselves. Individual schools need a vital and committed staff, working to agreed goals in a climate which encourages effective developments in curriculum change and teaching quality. The need for INSET in Libya is a reflection of the urgent demand for an effective programme to meet the country's needs and teachers' needs to improve their effectiveness for change and, hence, to meet the needs of Libya as a rapidly changing and developing country.

Purpose of the study

It can be seen, from the preceding analysis, that this study has several purposes:

1. To establish a situational analysis of Libya and education within it, so that the education service and initiatives can be rendered more appropriate and responsive to existing and emerging needs in Libya.
2. To indicate the importance of a needs analysis in commencing change, to indicate how a needs analysis can be developed and conducted, and to conduct a needs analysis of key aspects of the Libyan educational service in meetings the country's economic, social, cultural, employment and educational changes.
3. To make the case for INSET in Libya and what that INSET is for.
4. To provide an outline survey map of teachers' needs in improving their effectiveness in Libya and to indicate how INSET can meet these needs.
5. To indicate the role, scope, and contents of INSET in managing innovations and change in schools.
6. To develop an instrument for conducting surveys of INSET in Libya (i.e. to provide a model) and to provide a methodology for their implementation and data analysis.
7. To provide an outline survey that indicates the purposes, contents, focuses, priorities, organisation, pedagogy, attendance, audiences, providers and management of INSET in Libya.

8. To indicate how a person-centred view of change can be adopted in practice.
9. To indicate how policy initiatives and educational changes that are ‘top-down’ in their origin can dovetail with ‘bottom-up’ proposals for development by teachers.
10. To provide a model of the change process in Libya and the role of INSET in this, i.e. to contribute to theorising about change and innovation.
11. To make recommendations for initiating and improving INSET in Libya that are cast into a time frame and set of priorities, thereby adhering to the dynamic view of change, the case for which will have been established in the thesis.
12. To indicate avenues of further research and development that might be explored that build on this initial ‘mapping of the field’ of INSET in Libya.

Research questions

Each of the preceding purposes establishes its own research question. For example:

1. How can a situational analysis of Libya and education within it be undertaken, so that the education service and initiatives can be rendered more appropriate and responsive to existing and emerging needs in Libya?
2. What is the importance of a needs analysis in commencing change? How can a needs analysis be developed and conducted to identify key aspects of the Libyan educational service in meetings the country’s economic, social, cultural, employment and educational changes?
3. How can the case for INSET in Libya be made, and what is that INSET for?
4. How can an outline survey map of teachers’ needs in improving their effectiveness in Libya be prepared, which indicates how INSET can meet these needs?
5. What are the role, scope, and contents of INSET in managing innovations and change in schools?
6. How can an instrument for conducting surveys of INSET in Libya (i.e. to provide a model) be developed, together with a methodology for their implementation and data analysis?

7. What does survey analysis indicate about the purposes, contents, focuses, priorities, organisation, pedagogy, attendance, audiences, providers and management of INSET in Libya?
8. How can a person-centred view of change be adopted in practice?
9. How can policy initiatives and educational changes that are 'top-down' in their origin dovetail with 'bottom-up' proposals for development by teachers?
10. What is a model of the change process in Libya and the role of INSET in this, i.e. how can the thesis contribute to theorising about change and innovation?
11. What recommendations can be made for initiating and improving INSET in Libya that are cast into a time frame and set of priorities, thereby adhering to the dynamic view of change, the case for which will have been established in the thesis?
12. What further research and development might be explored that build on this initial 'mapping of the field' of INSET in Libya?

The empirical research has a certain acuity of vision. It does not seek to provide exhaustive detail about the intricacies of INSET. That, it is argued, is the stuff of further research which can build on this initial research. More specifically, it focuses on mapping the domain of possible and actual INSET in Libya. In this context the research reported here attempts to find answers to the following main questions:

1. What are relationships between biographical and professional information and views about INSET?
2. What teachers consider to be the difficulties that they are experiencing in their work?
3. What teachers do currently to improve or attempt to improve their effectiveness?
4. What teachers feel needs to be done if their part in the education system is to improve?
5. What is the role of INSET in meeting teachers individual and the system's needs for greater effectiveness in a time of change?
6. What are the patterns of perceptions (attributions), opinions (attitudes) and preferences of teachers toward INSET in Libya?
7. How can INSET be most effectively managed to improve education in Libya?

These questions are broken down into subsidiary questions (see the research questionnaire) which are given in Appendix 1.

The significance and originality of the study

Applicability

Libya is a country that is wrestling with structural change, not only in its education service, but in all walks of life. As such it provides a powerful example of macro- and micro-level change in the context of a developing country that is emerging from years of colonialization. In this respect it provides an important example for developing countries; its models, approaches and recommendations will be useful for the analysis and development of INSET in other developing countries, particularly as Libya is at the cross-roads of western, Arabic and African cultures. Several of the models of change that have been developed in the literature are clearly western in their cultural origin; their applicability to other contexts is tested in this thesis.

Methodology

The notion of needs analysis has long been a feature of the worlds of business and social welfare programmes (e.g. Rossi and Freeman, 1993). Given also that many recent initiatives in education have been politically inspired rather than needs driven, it is timely to extend the role of needs analysis into educational development. This study indicates how this might be undertaken.

Though the change literature is replete with exhortation to adopt person-centred models, many of these are focused on the micro-, institutional level, concerned with the management of the implementation of change. This thesis goes further than that, indicating how person-centred models can be built into large-scale, macro-level studies that precede implementation. This is not only a matter of sampling (though, clearly it is this also) but a matter of the nature of the instrumentation, the substantive issues addressed and the ways in which the research is conducted.

Further, though there are frequent exhortations in the literature to synthesise 'top-down' and 'bottom-up' models of change (e.g. Fullan, 1991; 1993), how this can be addressed in a large-scale way and in a developing country is an area that requires

further exploration. This thesis endeavours to provide a methodology for doing this, albeit within the context of mandated change.

Substantive matters

To date there have been no previous comprehensive studies in the area of INSET in managing change and innovation in schools in Libya. This study will be the first to comprehensively and exploratory deal with the subject. As this is the first study of its kind, its originality is clear. There are several sequiturs to this.

Firstly, it is important, in managing change effectively, to have an accurate picture of the current situation and needs, in short to undertake a situational analysis. This study attempts to do this.

Secondly, as there have been no studies of INSET undertaken in Libya to date, it would be too large a task to go into the details of specific issues until the whole picture has been mapped out in outline; this study provides such a map - it sets the parameters of the field. In this respect this thesis makes a very important contribution to the development of an effective education service in Libya and provides subsequent researchers with several agendas and focuses for further study - it provides a platform or springboard for future work.

Thirdly, because INSET is so underdeveloped in Libya, it would be comparatively simple for the respondents to indicate that they want all types of INSET to cover all types of activity and all types of need, i.e. the data would be simply a 'wish-list' with little differentiation and little ability to suggest key elements and priorities. It is important to be able to introduce priorities in considering INSET, and to root these priorities in the real needs of teachers. This thesis indicates how this can be done. In these respects this study is of value to all those who work in this field, teachers, head teachers, deputy head teachers, inspectors, INSET providers and educational authorities.

Not only is the substantive originality of this thesis immense but it is comprehensive. By careful sampling and instrumentation, an attempt has been made to identify patterned and significant areas of weakness and problematical areas in schools. This has not been undertaken to date in Libya.

Further, the case that INSET should not only serve policy initiatives but should also address these current problems in schools has not been addressed in Libya - in its contents and methodology. This study indicates the importance of this matter and how it can be addressed.

Finally, this comprehensive survey of teachers' needs in order to solve the problems that they have identified has significant policy implications for resourcing and future developments of teacher education in Libya. To date this issue has not been approached in Libya; the careful matching of the country's needs with innovation needs and INSET needs - bringing them all into alignment - has not been undertaken so far in Libya. This study indicates the areas in which such alignment can be promoted. Clear priorities for development are identified and these are put into a chronology that balance the time frames suggested by change theory and the country's priorities.

Theoretical matters

This study impacts on the theory of innovation and change in several ways:

1. Arising from the thesis is the development of a needs-driven theory or model of change and innovation and how INSET can nest within that i.e. a view of change that commences with an analysis of the perceived and declared needs of the participants in their own words, seeing the priorities for change as identified by the participants themselves.
2. The thesis establishes how a person-centred model of change can be utilised within large-scale surveys.
3. The thesis establishes a framework for the delivery of person-centred INSET provision.
4. The thesis tests the change theories advocated by Fullan (1991; 1993) and Morrison (1998) by utilising some of their key principles, seeing how (and whether) they can be translated into practice, and seeing the contribution that they can make to an understanding of the planning of change.
5. The recent moves in the professions is towards evidence-based practice; this thesis makes an international contribution to that evidence base, drawing on a

comprehensive data base and indicating how models of change can be applied to non-western contexts and to emerging states.

The parameters of the study

It is essential to place boundaries around this study. Its strength lies in the writer's and reader's awareness of what can and cannot legitimately be inferred from the studies. This study is limited in the following ways:

- The sample is limited to basic and secondary education in Libya.
- The findings are limited to the basic and secondary education in Libya.
- The empirical findings are perception-based, containing subjective opinions and values more than 'objective observable facts' apart from sampling details.
- It is recognised that the data provide an outline map only, with limited explanatory potential. This is not regarded as a weakness, merely as a limitation, the justification for which lies in its originality - the need to have an overall map of the situation in Libya outlined before further avenues for exploration can be pursued.
- The study confines itself to participants' views of INSET; it deliberately avoids detailed discussion of matters of the internal organisation of schools, leadership and management issues, notions of personal resistance and facilitation (though, clearly, these are present in asking participants for their views about INSET). The study focuses on INSET provision to meet perceived needs rather than other or all aspects of the change process.
- The model uses only one large instrument - a detailed questionnaire - that provides generalised, outline survey data. Though wide and stratified sampling is undertaken to provide some reliability, and high response rates are indicated, nevertheless it is a single-instrument approach to a complex, multifaceted issue. This is justified on the grounds that the intention of this study is deliberately to sketch the contours of the field rather than to plough each furrow! It is the stuff of another thesis to explore each detail of the overview provided here; this would seek to provide closer grained, explanatory analysis, for example through case studies and interviews. That is a sequel to this study - we need to know what has

to be explored and explained before we can explore and explain it! The *explanandum* precedes the explanation.

- The instrument was used on a ‘one-shot’ basis; that this might capture the views at only a specific point in time is recognised. To the charge that this might violate one of the other principles of this study - that change is evolutionary and dynamic - the response is that it is necessary to have a firm, comprehensive and complete initial landscape or picture before proceeding. The gathering of subsequent landscapes or pictures is the stuff of another study.

This thesis is an *exploratory* study only, intended to be able to establish further lines for inquiry. In this respect the thesis will suggest how these might be taken forward in several fields, for example: substantive issues; methodological issues; issues of instrumentation and sampling; theories of innovation and change; the conduct of needs analysis; the management of the development of an infrastructure to establish and promote INSET in Libya; issues in quality assurance; how to build in person-centred approaches to change at macro as well as micro-levels and into survey approaches to study those changes and innovations.

The organisation of the study

The study is organised as follows, to follow a line of argument:

Chapter 2 outlines the relevant research literature has been carried out on the field of educational change and innovation, and the field of INSET and CPD. This establishes the person-centred nature and complexity of change and locates INSET within this context. The need for INSET to service change is indicated, and the complexity of notions of INSET is outlined. The argument is made for a comprehensive needs analysis as a necessary and essential precursor to planning for effective INSET. A person-centred approach to change is seen to be premised on the need for human resource development, itself a central feature in the Libyan context.

Chapter 3 introduces the historical background of the Libyan education system and its development. It demonstrates that, though Libya has experienced huge changes for centuries, nevertheless the changes that it currently faces are unprecedented and impact on all aspects of Libyan life. It also suggests that Libyan education has a long tradition of being ‘out-of-step’ with the requirements of the wider society, economy

and culture, but that this situation can no longer stand at a time of exponential change where the country's growth as an independent state is concerned. The massive need for human resource development in Libya is indicated, and the impact of this on the development of the human resources of the serving teachers in Libya is huge. The need for INSET, for carefully targeted INSET in Libya, and for a comprehensive empirical study of INSET needs for Libya is demonstrated.

Chapter 4 describes the design, procedures and methodology employed in gathering and analysing data to meet the requirements of the empirical study indicated in chapter 3. The chapter indicates the need for a random stratified sampling using a large scale questionnaire survey, so that generalisations can be made about the Libyan population as a whole. The sampling and contents of the questionnaire are seen to further the person-centred view of change set out in chapter two.

Chapter 5 presents and analyses the data gathered from the survey sample. A range of non-parametric statistics is used on both raw and recoded data to seek reliability as consistency, to identify patterns of response, and to identify priorities in the responses. A significant feature to emerge is the considerable patterning of responses, regardless of the nominal characteristics of the sample. This, together with the careful sampling and high response rates, gives considerable weight to the reliability of the results and implications to be drawn from them..

Chapter 6 discusses the findings of the study in relation to issues in educational change and INSET. The data analysis shows that the data are convergent to the extent that INSET provision - its focuses, priorities, contents, organisation, timing purposes etc. - can be planned with considerable matching between local and national needs. National policy making can be informed by the data because the data show a huge patterning of responses across a range of participants. The main conclusions, priorities and findings are identified. Some explanation for the findings is provided in this chapter, though care is taken to avoid too high a level of inference in non-inferential statistics.

Chapter 7 identifies some key implications of the study and the data, and discusses these in light of some key elements of the Libyan context. In this respect the chapter draws together the findings from the literature search on Libya and the empirical data from the survey. The chapter then relates these discussions to a theory of change and

INSET, moving to the generation of a model of change and innovation that includes needs analysis and person-centred change as significant elements in developing programmes of INSET activity. This chapter identifies some limitations to the study, indicates how, in retrospect, the study could have been improved, and draws implications for various parties, e.g. teachers, INSET providers, inspectors and researchers. The thesis, as an outline 'map-making' study, suggests lines that can be followed in subsequent research, building on the field that has been mapped in this thesis. Finally implications for the management of change and INSET are identified, and are set into a time scale that addresses identified priorities for INSET and for Libya. Each chapter stands on its own, yet the full picture of change and innovation in Libya only emerges on reading the whole thesis - the whole is greater than the sum of its parts.

CHAPTER

2

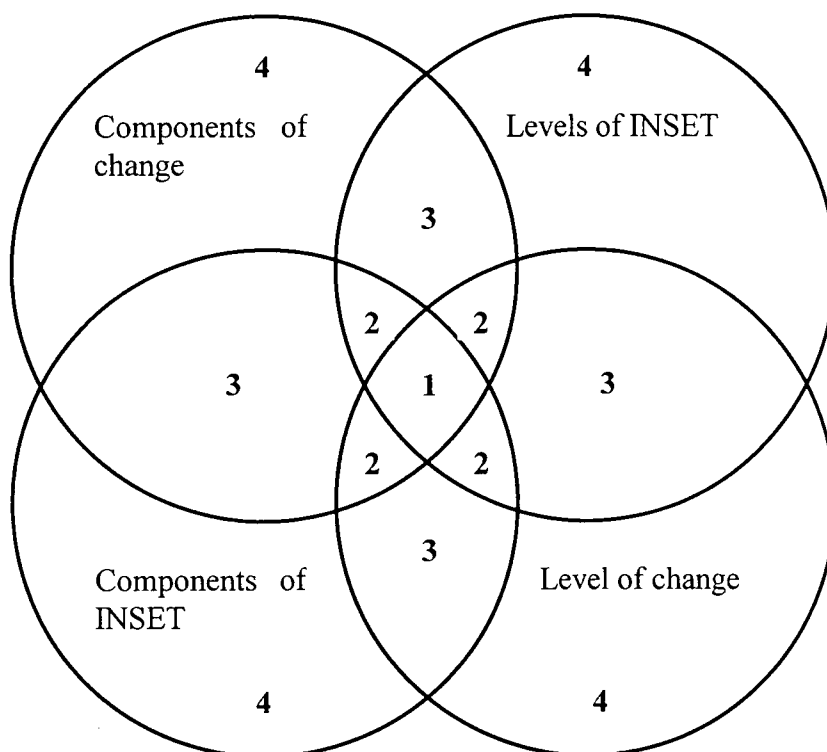
Educational Change and INSET

Introduction

The field of INSET, like the field of change, is vast. It is invidious to try to cover the field in its entirety. Nevertheless this study takes as a premise the view that INSET has a major contribution to make to educational and curricular change. Whilst the remainder of this thesis explores some practical implications of this view, it is important to locate INSET in a context of discussions and definitions of change. This chapter does not seek to review the literature on change; rather it seeks to map out the complexity and diversity of elements of change. The argument is made that because change is complex, the relationship between change and INSET is necessarily complex. Figure 2.1, for example, sets out some issues that are discussed more fully later. There is no straightforward one-to-one relationship between the provision of INSET and the success of specific changes and innovations. That is not to undermine the role of INSET in managing change; rather it is to counsel against 'simple impact' models of the role of INSET in managing change. It is argued that, just as there are many facets to educational change, so there are many facets to INSET. This will lead into the empirical section of the thesis, where some of these facets of INSET are explored.

Section one: Educational change - the context for INSET

The complexity of change is revealed in the several sections below, which, taken together, provide an overview of change.



1 = Common to all 4 areas

2 = Common to 3 areas

3 = Common to 2 areas

4 = Common to 1 area

1 includes: component headings
: level headings

2+3 include: common descriptors of each component/level in terms of:

- components of change and levels of change
- components of change and components of INSET
- levels of change and components of INSET
- components of change and levels of INSET
- levels of change and levels of INSET
- levels of INSET and components of INSET

4 includes specific and exclusive elements of :

- components of change
- levels of change
- components of INSET
- levels of INSET

Figure 2.1 Relationships between change and INSET

The definitions and meanings of educational change and innovation

Educational change and innovation are rapidly expanding fields of study, with a broad scope. Studies in this area have a wide range, from the macroscopic countrywide policy-making (e.g. Dalin, 1973) to the microscopic teaching in the classroom (e.g. Hall and Hord, 1987). Issues covered in the field include curriculum, teaching methods, technology, roles and people, as well as organisation and administration. Many studies are directed at the objective of improving and enhancing schools.

To discuss *change* and/or *innovation* (these two terms are deliberately used interchangeably, as they are used like this in the relevant literature), and their management in education, it is necessary to start by defining and distinguishing the meaning of these terms as found in the literature on the subject. One definition of *change* is that given by Guba (1968) as:

some perceptible differences in a situation, circumstance or a person, between some original time to and some later time (Guba, 1968:1).

The argument that Guba (1968) has put forward here is that we can picture a change as the transition from a certain state to a different state over time. Griffiths (1964) considers *any* alteration in an aspect related to the organisation to be a change. To him 'The word change is used to mean an alteration in the structure of the organisation, in any of its processes, or in its goals or purposes' (Griffiths, in Miles (ed.), 1964: 428).

Innovation, on the other hand, is often viewed as one special kind of change (Miles (1964) called it a species of the genus *change*). Marklund (1972) makes a clearer distinction between educational *innovation* and *change*:

The term innovation as used in school and teaching is often synonymous with the term change. If this change is on the broad scale and affects an entire school system, one frequently speaks in terms of a reform. It would be incorrect however to refer to every change as an innovation. It must imply an improvement towards a pre-determined objective. Innovation always presupposes one or more qualitative criteria (Marklund, cited in Dalin, 1973: 6).

While some researchers concentrate on the *qualitative* aspects of change, others emphasise *operationalisation* - a *process* view. These variations can be observed from the writers as shown below. Barnett (1943), thinking about the *qualitative*

aspect, defines *innovation* as 'any thought, behaviour or thing that is new because it is qualitatively different from existing forms' (Barnett, cited in Dalin, 1973: 34). Other definitions, focusing on the *operationalisation* of innovation rather than the qualitative aspect, include that given by Beal and Bohlen (1968) as involving 'not only a change in materials but also a complex of changes with regard to their use' (Beal and Bohlen, 1968: 55).

Other writers describe innovation as a process. For example, Neihoff (1966) considers innovation as a process that 'begins with an idea on the part of change agent and ends in its adoption rejection by the potential recipients' (Neihoff, 1966: 40). Similarly, Richland (1965), with a process view of innovation, defines it as:

A creative selection, organisation and utilisation of human material resources in new and unique ways which will result in the attainment of a higher level of achievement for the defined goals and objectives (Richland, 1965: 32).

Brickell (1961), in his process definition of educational innovation, also implies a goal-directed or value-directed improvement in the use of the term:

The entire process of generating a new form of educational practice (along with the concepts underlying it and the materials needed to execute it), trying it in small-scale laboratory setting it in a variety of field settings (to discover that it will do under normal conditions, and disseminating it to prospective adopters (to inform and aid them in adopting it). Adoption, which must accompany dissemination (dissemination is sending; adoption is receiving), is also included in the definition (Brickell, 1961:61).

Goal or objective oriented definitions of innovation appear to have a firm stance especially in education. Thus Miles notes that:

Generally speaking it seems useful to define innovation as a deliberate, novel, specific change, which is thought to be efficacious in accomplishing the goal of a system (Miles, 1964: 14).

Dalin (1973) in his international case studies of educational innovation, uses the term innovation to mean 'a deliberate attempt to improve practice in relation to certain desired objectives' (Dalin, 1973: 36). This concise definition clearly identifies three important characteristics of an educational innovation, that:

- it is deliberate and planned activity or process;
- it is goal-oriented;
- it is intended for improvement over existing practice.

However, a general agreement can be drawn from these definitions. All these authors define innovation as a deliberate, novel, specific, change, and associate, designed to accomplish the goal of a system. Morrison (1998:13) defines change as ‘a dynamic and continuous process of development and growth that involves a reorganisation in response to ‘felt needs’ (‘real needs’ and ‘felt needs’ are used synonymously in this thesis, to mean ‘needs defined by the participants). In this respect there is an important psychological dimension to change, moving beyond simply perceptions of, and reactions to, change, and into matters of motivation, self-esteem (and change often threatens self-esteem because it tends to deskill) (Morrison, 1998), self-realization (echoing Maslow’s hierarchy of needs), and the drive towards psychological homeostasis that Dalin (1978) sees as an inhibiting factor in change. That said, this thesis deliberately avoids this micro-level psychological analysis; instead it focuses on system-wide change through the eyes of participants, i.e. a perceptual rather than psychological matter.

Change is a proven of transformation, a flow from one state to another, either initiated by internal factors or external forces involving individuals, groups or institutions, leading to a realignment of existing values, practices and outcomes’. That said, what characterises the literature on change and innovation is the loose way in which the terms are used - they become interchangeable, and their conceptual niceties and distinctions between the two are not maintained in practice.

Characteristics of Change

Bringing the review more up to date, Morrison (1998: 14-5) suggests that, from the 1970s onwards, change has several hallmarks:

- it is structural, systemic and system-disturbing rather than superficial. In the Libyan context it will be shown how structural change and structurally changed INSET to meet that change are required;
- regarding change as structural recognises that change in one part of an organisation will have a knock-on effect on other parts of an organisation. In this thesis this

finds its recognition in the wide sampling that has been built into the survey, so that all parties are involved;

- it is a dynamic process - over time - rather than an event. Recognising this, the closing chapter of this thesis will suggest priorities in the short term, the medium term and the long term for the development of INSET in Libya;
- it is a multi-dimensional phenomenon (embracing objectives and functions, organisation and administration, structures, knowledge, skills, behaviours, beliefs, values, roles and relationships, curricular aims, content, organisation, pedagogy, resources, assessment, evaluation). In this thesis this is addressed in the *scope* of the survey - its coverage of a wide range of issues.
- it embraces multiple perspectives (Hopkins, Ainscow and West, 1994). In this thesis this is addressed by careful and wide sampling to ensure a coverage of *all* the significant parties in the development of effective INSET;
- it requires investment in structures, institutions, people, technological and psychological support. This is a fundamental premise of the thesis - that for change to be effective requires investment in appropriate INSET. This thesis suggests how that INSET might be made more appropriate, and develops a series of recommendations to bring this about;
- it requires involvement of people, bringing the need to develop new skills. One major feature of this thesis is its comprehensive sampling and the recognition that effective change requires effective INSET to provide the updating and training needed for teachers in Libya;
- it is a personal as well as an organisational matter. This is addressed in this thesis by conducting a survey not only on a wide sample, but ensuring that much of the survey is based on catching participants' perceptions, opinions, feelings and preferences;
- organisational conditions and local circumstances exert a strong effect on the likelihood of success. A significant element of the thesis is to try to map the extent to which this is the case, for example to see if there exists any patterning of responses regardless of local, situational, individual variables, or the extent to which the needs for and requirements in INSET are common regardless of local

factors, or the extent to which local factors must be included in the effective development and implementation of INSET (a feature addressed by Dalin *et al*, 1993);

- effective change is in response to real needs and felt needs (Dalin *et al*, 1993: 134). This is a key dimension of this thesis, for the survey is intended to be a needs assessment, indicating not only the priorities for change, but how INSET can be prioritised to meet those needs. By going to the complete spectrum of participants in the sampling strategy employed it is intended that the thesis will catch the real need and the felt needs. The survey is person oriented;
- innovation and information are very closely linked with each other (Carnall, 1995). The significance of the thesis and the survey data are to provide what is currently missing in Libya, viz. adequate information to inform evidence-based practice. A major purpose of this thesis is to plug that gap in the knowledge base;
- policy cannot mandate what actually happens in schools and classrooms; the critical site of change is the classroom and the teacher (Dalin *et al*, 1993; Hargreaves, 1994). In the thesis the survey deliberately includes classroom practitioners in its sample, identifying what they consider to be the real needs and how those real needs should be met;
- innovation is creative and requires the ability to identify and solve problems. This thesis is intended to identify problems in change and its associated INSET and to indicate how those problems can be addressed;
- change is learning, with schools and teachers as learning organisations and individuals respectively (Dalin *et al*, 1993). One purpose of this thesis is to identify how INSET can support individual, institutional and macro-political learning and change most effectively. It recognises that change - and learning - occurs at several levels and hence it makes recommendations for parties at all levels in the closing parts of the thesis;
- effective change integrates top-down strategies with bottom-up strategies (Morrison, 1998: 14-15). In Libya, as in other countries, mandated change at state level sets the parameters and direction of change, and then this is locally implemented and administered. One purpose of the survey is to catch national,

regional, local, institutional and personal levels of change and perception so that recommendations can be made for the effective implementation of INSET that harmonises these levels and ensures that INSET meets the country's goals and needs.

Morrison (1998) argues that the feature that runs through this range of characteristics is that change concerns people more than content. This is a critical factor, because it is arguing that a theory of change needs to take seriously the perceptions of people involved in or affected by change. This is a fundamental justification for the decision in the thesis to conduct a survey that taps into participants' perceptions of change as a starting point to the provision of appropriate INSET. Change, therefore, concerns human resource development and human resource management (Morrison, 1998: 15). Part of the successful management of change is to identify participants' perceptions attitudes, values, beliefs and opinions and to ensure that these are fully informed, and this is what this study seeks to do.

Further, the argument from the literature (e.g. Fullan, 1991; 1993; Burnes, 1996; Morrison, 1998; Robbins and Finley, 1998; Dalin, 1998) is explicit in its view that for change to be effective it requires support, particularly in the area of human resource development. This is a major justification for the role of INSET in initiating, developing, supporting, sustaining, in general serving and servicing change. For INSET to fulfil this role requires a careful needs analysis to be conducted. Morrison (1998: 13) argues that a needs assessment will identify the size of the need, the priorities, the numbers of people affected and involved, the consequences if these needs are not met, how to meet the needs, the resources required (e.g. human, material, financial etc.), and how the meeting of needs can be met, operationalized and managed. This also recognises one important dimension of effective management of change (Robbins and Finley, 1998) that the successful management of change concerns 'valuing people', and that the education service can demonstrate how it values people by providing them with appropriate in-service support to prepare them for, and sustain them through, change.

Accepting the view that starting with real needs, real people, and real perceptions has several sequiturs (Morrison, 1998: 16), for example:

- the Research, Development and Diffusion (R, D & D) model of change is useful

but simplistically unidirectional, even with built-in dissemination strategies; the traditional R, D & D sequence is replaced, through teamwork, by people working together from across departments and institutions. This is a powerful message for the co-ordination and effective planning, organisation and impact of INSET;

- the R, D & D model of change is perhaps too clean and ‘antiseptic’ to be used as a complete statement of the change process - it is product focused rather than people- and process-focused. Morrison (1998: 16) argues that change in education is an inescapably messy business simply because it involves people and is focused on people;
- strategies of change must build in ‘ownership’ (Dalin *et al*, 1993, chapter 7) and involvement of participants; this is a central plank in the justification in this thesis for going to all the participants in INSET in the questionnaire survey, to ensure engagement, involvement, ownership and responsiveness to ‘real’ felt needs and problems;

The argument advanced here, then, suggests that the effective management of change involves the effective management of people. For this to happen in the field of INSET is to suggest the need for INSET to be responsive to the range of stakeholders’ perceptions, problems, needs, attitudes, circumstances, situations, values, wishes and policies. The whole is a complex bundle of person-centred as well as policy-centred factors (Robbins and Finley, 1998).

The Nature of Change

Not only does change involve effective, person-centred management, but Morrison (1998: 16) suggests that there are characteristics of the change itself that need to be borne in mind, for example:

1. its *centrality* (the extent to which the change might alter the norms of the institutions);
2. its *complexity* (how many people and groups within the institution will be affected by the change, together with how straightforward the change is to manage and implement);
3. the *nature* and *amount* of the change (which feeds into the argument through this thesis that effective change requires a needs analysis to be conducted as the first

stage in planning for appropriate INSET within a policy of mandated policy); this is a powerful justification for the survey that forms the heart of this thesis;

4. the *consonance/compatibility/congruence* of the change (the extent to which the proposed change fits the existing personal and institutional practices and values). Again this requires an analysis of the perceptions of participants and stakeholders to be gathered, itself a powerful justification for the survey conducted in this thesis;
5. the *visibility* of the change (how public is the change). In the Libyan context there is a very public need for change to be effected in schools (discussed in chapter 3), hence the nature of the response to that need must necessarily be public; one purpose of this thesis is to provide data that can be placed in the public domain to inform future INSET practice;
6. the *communicability* of the change (how easy the change is to communicate). The argument here is that the data from the thesis must be presented in an informed yet accessible manner, suggesting (as is done in the later stages of the thesis) the further developments that are needed for INSET in Libya. In this respect the data and recommendations from this thesis will feed into policy formation;
7. the *divisibility* of the change (the possibility of piloting proposed elements of the proposed changes in order to obtain feedback);
8. the *clarity* of the proposed change. In the Libyan context the survey is intended to make very specific and detailed recommendations for future developments of INSET in Libya;
9. the *relative advantage* of the change over existing practice. It is argued in this thesis that Libya is facing a crisis situation in terms of meeting the human resource development demands of its workforce. In this respect the relative advantage of the change in improving education and the INSET that supports its development is unquestionable; the case does not need to be proven;
10. the *reversibility* of the change. This thesis argues that Libya cannot afford to stagnate, hence change must be continuous;
11. the *ease of solution* that the change presents to a problem. It is unwise to suppose that INSET on its own, will solve the problem of change in Libya (the 'simple-impact model' (Biddle and Anderson, 1991)); nevertheless this thesis will suggest

that this does not preclude the possibility of planning for more effective INSET in Libya, indeed that is one major purpose of this thesis;

12.the *scale of the benefit* that the change brings. This thesis will argue not only that the scale of the benefit is huge, but the scale of the problems, if change and its accompanying INSET are not addressed, is even larger. In this respect the case for the scale of benefit is already proven;

13.the *specificity* and *concreteness* of the change proposals. This thesis will make very specific recommendations for improving the impact of INSET on change, identifying who has to change, what changes are needed by whom, and how these can be managed in the field of INSET.

Morrison (1998: 17) argues that change stands more chance of success if it: (a) meets real needs (i.e. is predicated on a needs-assessment (the purpose of the survey in this thesis); (b) is understood and communicated effectively (a key purpose of the thesis in providing real data to understand the real problems facing education and the role of INSET in meeting those problems); (c) is seen to be an improvement on existing practice by the participants (entailing a significant element of thesis, viz. finding out what the participants' views are so that change can build on this base); (d) is seen to serve the policy initiatives and decisions that have been taken. This argues for a wide sampling strategy, and justifies the sampling used in this thesis.

Morrison (1998: 17) argues that, on the other hand, change is likely to be unsuccessful if it is: (a) over-complex (hence the need to make straightforward recommendations in this thesis); (b) not understood (which requires a full needs analysis to be conducted, itself a major purpose of this thesis); (c) poorly communicated (a major purpose of this thesis is to communicate real needs, real priorities, real perceptions, real requirements, real starting points); (d) over-demanding on the individuals and existing resources (one purpose of the thesis is to provide data such that the management and implementation of effective INSET can be conducted so as to avoid putting intolerable pressure on individuals or resources; this engages the need to identify 'where individuals are' - their current situations, expertise, needs - and to be able to identify priorities for the development of INSET and its role in the management of change); (e) unclear (one purpose of this thesis is to clarify the needs, priorities and lines of development for INSET, making specific recommendations for future INSET); (f) of

questionable benefit over existing practice (this thesis will indicate how Libya is at an educational crisis point in terms of having its teachers equipped with the necessary expertise to meet the country's human resource capital development needs); (g) unclear on its benefit in meeting the country's general needs (this thesis will not only suggest the need for targeted INSET but will identify how the direction and benefit of INSET can be maximised); (h) brought in without real consultation (one of the major justifications of this thesis is the need to consult widely in order to gain the maximum insight possible on all aspects of INSET, e.g. its purposes, its organisation, its management, its contents, its evaluation etc.).

The above elements of change indicate its complexity. This can be taken further, to suggest that change has multiple components (Hoyle, 1976; Dalin, 1978; Fullan, 1991; 1993; Dalin *et al*, 1993; Hargreaves, 1994; Dalin and Rust, 1996; Burnes, 1996; Dalin, 1998; Morrison, 1998), including, for example:

- Characteristics of change
- Contexts of change (macro and micro);
- Overall purposes and motives in change;
- Focus(es) of change;
- Facilitators and inhibitors of change;
- Models of change;
- Locus(es) - sites - of change (where it takes place);
- Sequence of change;
- Dissemination of change;
- Levels of change (e.g. national, regional; local; institutional; departmental; interpersonal; classroom, interpersonal);
- Leadership and management of change;
- Organisational climate, health, culture and structure;
- Strategies of change.

When one then applies these several elements of change to the field of INSET it is scarcely surprising that the clarity of the picture recedes. What presents itself, then, is

a picture of change and its associated INSET that is almost infinitely complex. This list above is by no means exhaustive. The complexity of change in these elements and the complexity of their application to INSET is revealed in figure 2.2 and tables 2.1, 2.2, 2.3, 2.4.

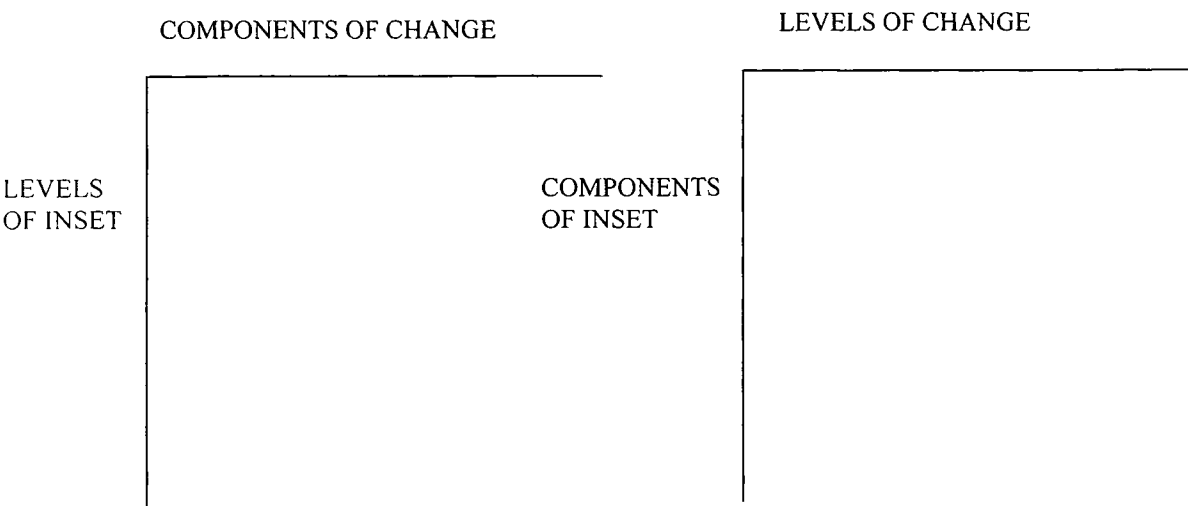


Figure 2.2 Elements of change and INSET

Table 2.1 Components and levels of change

Components of change →	Characteristics of change							Contexts		Overall purposes and motives
	Depth (superficial to structural)	Process over time	Rate	Time (short time-long time)	Central to Peripheral	Scale	Complexity/ Multidimensionality	Source/ Premiere (micro to macro)	Organisational health	
Levels of Change ↓										
National										
Regional										
Local										
Institutional										
Departmental faculty/team										
Classroom (Individual)										

Components of change →	Focus																
	Aims	Policy	Content	Pedagogy	Administration + Organisation	Management + Roles	Resources	Evaluation	Assessment	Leadership	Teacher's Attitudes	Teacher's Knowledge	Individual behaviour	Group behaviour	Targets (key people)	Key dynamics	Key powers/influence
Levels of change ↓																	
National																	
Regional																	
Local																	
Institutional																	
Departmental faculty/team																	
Classroom (Individual)																	

Table 2.1 Components and levels of change

Components of change →	Facilitators / inhibitors											Strategies		
	Consonance/Compatibility	Visibility	Clarity	Communicability	Amount (small to large)	Responsiveness to need, Priority (low to high)	Psychological	Practical	Power	Value	Divisibility	Power-Coercive	Empirical-Rational	Normative - Re-Educative
Levels of Change ↓														
National														
Regional														
Local														
Institutional														
Departmental faculty/team														
Classroom (Individual)														

Components of change →	Models		Locus	Stages / Sequence										Dissemination	
	RD+D/Centre - Periphery	Proliferation of Centres / Social -Interaction		Problem-solving/ Shifting Centres	Invention	Development	Diffusion	Adaption	Adoption	Implementation	Institutionalisation	Recommendation	Dissemination		
Levels of Change ↓															
National															
Regional															
Local															
Institutional															
Departmental faculty/team															
Classroom (Individual)															

Table 2.2 Components and levels of INSET

Components of INSET →		Characteristics				Context	Overall purposes + motives
Levels of INSET ↓		Day- 2 days (length)	3-20 days (length)	Long course (Non-award-bearing)	Long course (Award-bearing)	Structure (Continuous- Intermittent)	Others
<u>School-focused</u>							
National							
Agencies							
Consultants							
Government bodies							
Associations							
<u>School-focused</u>							
<u>Regional</u>							
HE Institutions							
Consortia							
Associations							
Regional offices							
<u>School-focused</u>							
<u>Local</u>							
LEA							
Associations							
Working Groups							
Subject Teams							
Seconded Teachers							
Advisory Teachers							
<u>School-based providers</u>							
External							
Internal:							
Inset Co-ordinator							
Subject Co-ordinator							
Manager							
Teacher							
(Institutional/ Departmental/ Faculty/ Team/ Individual)							

Table 2.2 Components and levels of INSET

Components of INSET →	Focus	Facilitators / Inhibitors	Strategies	Models	Locus	sequences	Dissemination
Levels of INSET ↓							
School-focused National Agencies Consultants Government bodies Associations							
School-focused Regional HE Institutions Consortia Associations Regional offices							
School-focused Local LEA Associations Working Groups Subject Teams Seconded Teachers Advisory Teachers							
School-based providers External Internal: Inset Co-ordinator Subject Co-ordinator Manager Teacher (Institutional/ Departmental/ Faculty/ Team/ Individual)							

Table 2.3 Components of change and components of INSET

COMPONENTS OF CHANGE →	Characteristics	Contexts	Overall Purposes	Focus	Facilitators/Inhibitors	Strategies	Models	Locus	Sequence	Dissemination
COMPONENTS OF INSET ↓	Characteristics	Contexts	Overall Purposes	Focus	Facilitators/ Inhibitors	Strategies	Models	Locus	Sequence	Dissemination

Table 2.4 Level of change and levels of INSET

LEVELS OF CHANGE →	National	Regional	Local	Institutional	Departmental/ Faculty/Teams	Classroom (Individual)
LEVELS OF INSET ↓	National	Regional	Local	Institutional	Departmental/ Faculty/ Teams	Classroom (Individual)

Given the complexity of change as manifested in the preceding discussion and figures, it is hardly surprising that INSET to suggest change is not straightforward. Indeed one purpose of this thesis is to identify the most appropriate forms of INSET to meet the complexity of changes in a changing situation in Libya. This suggests that INSET itself will have to take account of the complexity and person-centredness of change as outlined above.

Section two: INSET (In-service Education and Training)

The context of INSET

It is widely recognised that in-service education and training (commonly abbreviated to INSET) is a necessary supplement to initial professional or pre-service education and training.

The literature on INSET courses run by L.E.A.s, University or public sector Higher Education Departments reveals a range of long and short, award and non-award bearing courses directed towards the updating of subject content, familiarising teachers with new assessment techniques and providing visions into the management and organisation of schools.

A good deal of literature on INSET exists in the world of education. Nicholson *et al* (1976) discovered that the literature on INSET was extensive; they reviewed more than two thousand books, periodicals, and published papers, all of which were published after 1957. So, in this study, not all the literature will be covered. Only the most relevant and recent literature will be considered.

By the 1980s and early 1990s a dramatic increase in volume of this literature had taken place. In the ERIC system alone, hundreds of documents are catalogued, while a multitude of unpublished papers, periodicals, articles in professional journals, dissertations, books, other systems like BIDS, and other materials are in existence. Thus the literature of INSET is so extensive that reviewing it is complicated, yet, Ream (1966) stated that, this field of training has always exercised the interest of educators.

Much has occurred in the development of teacher education and training since the publication of the McNair report in the UK in 1944 (Board of Education, 1944), and

the report is seen to be very important in this field. Within this report in-service education was referred to as 'refresher courses'. At the time when this report was produced, such courses were often provided by universities or training colleges and involved teachers being available to go out to a local or national institution. Subsequently, courses have been provided by higher education, and also in local authorities through the development of teacher centres. Since the 1970's there has been a flurry of reports that have discussed the way in which in-service education and training could be developed. The James Report in 1972 suggested that teachers should be entitled to regular in-service education and training through a programme of leave to engage in such work. While this has not occurred systematically, there have been major developments through in-service education being provided within a range of institutions including schools.

A major document which provided a framework for much subsequent discussion of INSET was produced by a sub-group of the Advisory Committee on the Supply and Training of Teachers (ACSTT) in 1978. The booklet entitled '*Making INSET Work*' (ACSTT, 1978) focused on key principles associated with in-service education and training. There was the identification of teachers' needs which, it was argued, should take place on an individual level through groups of teachers within the school and in schools as a whole. Also, importance was attached to teachers deciding on the way in which their needs could be fulfilled through courses provided by a range of different agencies. Further, the evaluation of the effectiveness of the programme of in-service education was also seen as a crucial area of concern. In a subsequent document produced by the Advisory Committee on the Supply and Education of Teachers (ACSET, 1984) these themes were taken further. Here it was argued that the quality of education depended on a supply of teachers who had opportunities for further training and professional development. Many of the themes that had been present in the earlier document were raised again. For example, the identification of training needs; the support of in-service training by governors, head teachers and senior staff in schools and local authorities; the development of coherent INSET policies; the provision of courses and their evaluation. However, fundamental to all in-service education and training was the notion that in-service training would lead to the improvement of pupil learning based upon improvements in school and teacher performance - a topic that continues to be presented to those engaged in the provision

of INSET and for which researchers are asked to provide evidence (Burgess *et al.*, 1993).

Since the mid-1980's, in-service education and training has had a more central role in teacher education. For example in the UK, the White Paper *Better Schools* (DES, 1985) indicated that all teachers needed to engage in in-service training relevant to their professional needs and requirements. Another key document associated with the provision of in-service training was Circular 6/86 *Local Education Authority Training Grants Scheme: Financial Year 1987/88*. Here the main purposes of the scheme were outlined. First, it was intended to promote the professional development of teachers. Secondly, the scheme was intended to provide systematic and purposeful planning of in-service training. Thirdly, it was intended to encourage training in particular areas which were given national priority. These three key points are central to a systematic approach in promoting effective INSET.

GEST is a good example of national priorities translated into INSET, and it has a history through GRIST and TRIST; although the schemes have been modified over the years and different acronyms have been introduced (GRIST - Grant Related In-Service Training; LEATGS - Local Education Authority Training Grants Scheme; and GEST - Grants for Educational Support and Training), the priority areas have remained much the same. They include: training in organisation and management for head teachers and senior staff; training in particular subject areas including ICT, mathematics, science, craft, design technology, micro-electronics and religious education; and training related to specific issues such as special educational needs, multicultural education and the preparation of pupils for the world of work. Clearly, the main topics that are included each year reflect changes in priorities, with health education, drug use and pre-school education figuring at times when these are central to the educational agenda. During this period preparations were also being made to introduce the first phases of National Curriculum work.

However, Circular 6/86 also identified another major theme when it stated that each LEA would:

be invited to report on: the extent to which its objectives have been achieved, the effectiveness of the training received, and the relevance of that training to needs identified through staff appraisal and through discussions with schools and other institutions ... this

information, together with advice from HM Inspectorate, will be taken into account in considering plans for expenditure in future years (Circular 6/86).

Circular 6/86 from the Department of Education and Science (DES) set the pattern for LEATGS: the Secretary of State would decide annually on national priority levels for INSET and indicate the level of funding available to local education authorities. LEAs would submit their INSET proposals and those approved by the DES would qualify for grants of 70 per cent towards the cost of national priority training and 50 per cent towards programmes defined as local but not national priorities. This document also indicated that all training supported through this scheme should be monitored by authorities in order to discover 'how far INSET has contributed to more effective and efficient delivery of the education service'. One specified area was the 'relevance of the training to expressed needs'. This was a continuing feature of Circulars 9/87 and 5/88, as DES stressed the need for systematic consultation with staff. Circular 6/86 explained that the Secretary for State's allocation of grant aid would take account of:

the authority's current practice and future intentions for the planning and management of such training, including its arrangements for identifying the training needs of individuals (through appraisal training where these exist). The Secretary of State will wish to assure himself that these proposals are related to systematically assessed needs and priorities, are set within balanced and coherent overall policies and plans and build appropriately on the strengths of current arrangements (DES, 1986, para. 17, I).

According to the authors of a more recent research report by the National Foundation for Educational Research (UK) into the effectiveness of INSET (Kinder *et al*, 1991), the most popular means for promoting professional development - school-provided INSET - may not properly be able to promote the necessary range of outcomes essential to continuing high quality professional developments, since they are predominantly limited to information, awareness and provisionary (third order) outcomes. Professional development needs to provide for motivational, affective and institutional (second order) outcomes, and (first order) outcomes related to knowledge and skills (as against content) and value congruence. The report concluded that INSET experiences which focus on (or are perceived as offering) only third order outcomes are least likely to impact on practice, unless other higher order outcomes are already achieved or already exist (Kinder *et al*., 1991: 59).

A multidimensional professional development map of the contexts in which the learning and development of teachers takes place can be devised, as in figure 2.3. It may serve to inform designs for the study of in-service teacher education across different national contexts.

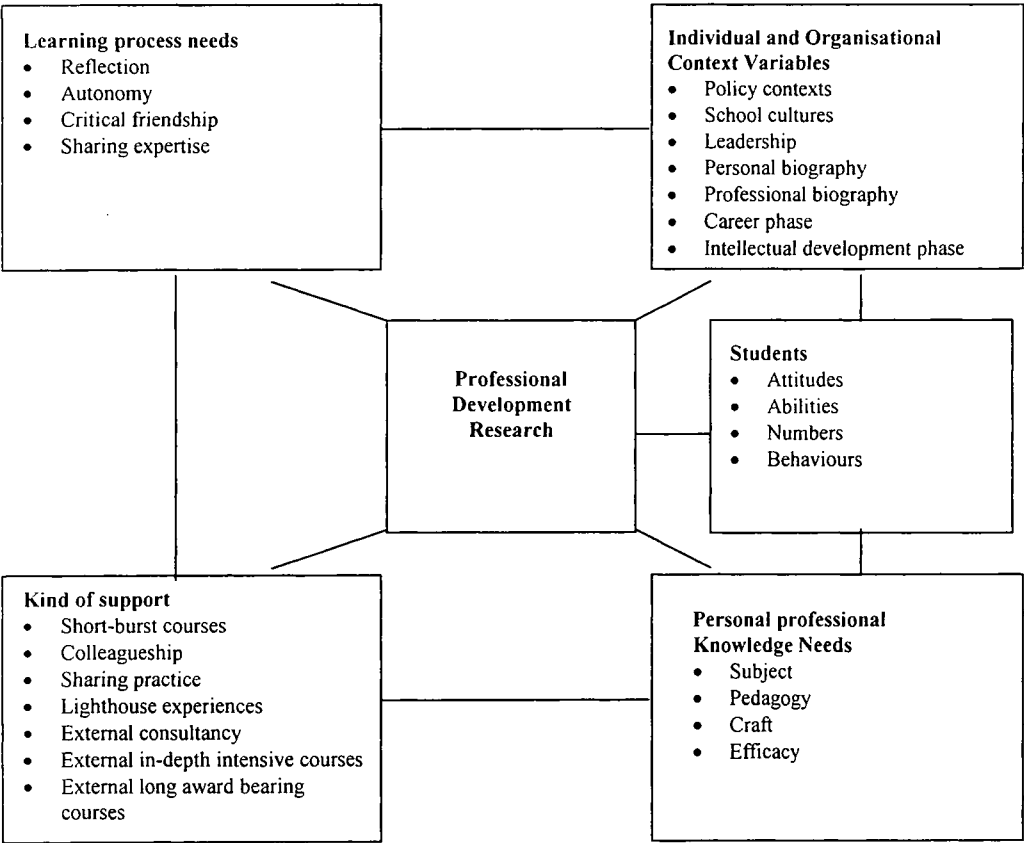


Figure 2.3 Professional development model (Day, 1997)

The Teacher Training Agency is currently elaborating its framework for continuing professional development (CPD) as part of its national strategy for teacher education. When it is implemented this will be another important innovation in educational reform.

A national plan that recognises the continuing needs of teachers as learners in a changing society is to be welcomed. Multiple and complex social change places multiple demands on teachers. A well-educated, flexible, highly competent teaching force is required to handle these changes and to foster practices which are responsive to the educational needs of all children.

Within the Teacher Training Agency framework for CPD outlined to date, however, Millett (1996) suggests that an educative view of professional development has yet to

be conceptualised. An educative model is necessary in order to avoid perpetuation of the 'delivery' model of teaching which has characterised the implementation of national curriculum, national testing and school inspection in the UK.

Effective staff development is a key issue for many educational leaders and one on which the quality of educational provision increasingly depends. Reliance on the widely-used 'sit and get' form of staff development, in which educators are passive recipients of 'received' wisdom from an 'expert', has produced little lasting change in the classroom. This type of staff development could also be thought of as 'go and get' because 'learning' has typically meant leaving the job to participate in the event (Fullan, 1977: 4). More recently, the emphasis has focused on the need for staff development to be a participative process which:

- (1) Invites growth and development;
- (2) Provides a safe context within which teachers explore new ideas and grow in understanding;
- (3) Facilitates not just individual, but also collective implementation of the changes (Johnston, 1994).

To achieve these aims it is of considerable importance that staff development should be innovation-orientated, continuous during the course of implementation and involve a variety of formal and informal components. An effective staff development programme is one in which participants acquire and/or enhance the competence they bring to their educational practice.

It is a distinct possibility that, in the future, the amount of time devoted to external training of teachers and administrators may diminish. This could mean an increasing emphasis on various forms of job-embedded activities (Sparks and Hirsch, 1997: 52). To the extent that this is the case, effective school based INSET for staff development will entail job-embedded learning. In other words, the training would occur at the site where what is being learned is to be implemented. This is consistent with the reasonable proposition that the most effective learning is often that which occurs in response to the challenges currently faced by the learner and that facilitates immediate application.

Yet another key component of effective staff development is the provision of

opportunities for staff to know and relate to multiple classrooms - to see and work with other teachers and their classrooms. The literature on reflective practice suggests that teachers need time to talk, share, reflect, and discuss the development they are experiencing - in terms of both snags and successes. It is clear from both research and practice that 'unless teachers are given ample opportunities to construct for themselves educational visions through which they can reflect on educational practices, the instructional programmes will be trivialised into 'cookbook' approaches' (Brooks and Brooks, 1993: 121-122) and forgotten and/or ignored. As Zimmerman (1997: 86) argues, there is real power in group conversations and where opportunities for real dialogue are created, a higher consciousness will start to percolate. Clearly this view could be considered to be simplistic, but nevertheless the literature on reflective practice would support it.

King (1978) claimed, with regard to literature relating to the professional development of INSET, that research has been carried out generally in four areas: history, trends, criticism, and organisation. Williams (1991) remarked:

in terms of attention paid by scholars and researchers, INSET is a Cinderella topic. It has been largely unresearched, being more the subject for recommendation and pragmatic action than the target for incremental and large scale heavily funded studies (p. xii).

However, Williams (1991) gave no evidence for this claim. To date, there has been no systematic research undertaken whose aim has been to assess the impact of INSET on teachers and on schools in Libya. The DFE (Department For Education) (1994) wrote to invite proposals for new designated courses to be supported through GEST (Grants for Education Support and Training) grant 3 in 1995-96. In 1995 all the course proposals were received. As a result, the DFE introduced a wide range of courses in all nine subjects of the primary national curriculum and religious education. Halpin *et al* (1990) and Kinder and Harland (1991) have pointed out that there have been very few studies of the effects of INSET on teachers' work.

Successful INSET programs depend greatly on the context or environment in which they take place, be they, for example, school-based, school-focused, and school-centred. Phi Delta Kappa's Practical Application of Research (1983) described five general modes that the context of in-service education tends to have, which are briefly summarised as follows:

- 1) Job-embedded: This mode allows teachers to learn while actually on the job. Joyce *et al* (1976) describe the following four modes of INSET to be committee work, team teaching, work with consultants, and professional reading and curriculum analysis.
- 2) Job-related: This mode is often from the form of workshops where teachers work together with resource people to solve a problem of interest to the group. A variation of this mode is the teacher exchange, where a teacher is temporarily assigned to a different school to benefit from new ideas or new interactions with teachers who use different styles, strategies, or curricula in special programs.
- 3) Credential-oriented: This mode is used mainly by those seeking advanced certificates or degrees.
- 4) Professional organisation-related: This mode asks professional organisations to accept some responsibility for their members to remain current in their relevant field of study.
- 5) Self-directed: This concept views teachers as self-motivated professionals who are interested in maintaining and improving their own skills through self-initiated activities.

The above five environments offer staff development a great deal of flexibility in the education service. All too often programs are offered by simply bringing together a group of educators and an 'expert lecturer'. Staff developers need to consider adult learning theory in setting up programs so that participants may maximise their own preferences and abilities.

Wood *et al* (1981) summarise the concern for context in staff development programs when they state that: in-service education should be conducted in a supportive climate of trust, peer support, open communication, and staff commitments to a set of clearly understood norms for functioning in an institution. Staff development is not a 'patch-on' to a school's curriculum but rather a component that is on-going and fully integrated into the system as another means of seeking school improvement.

Definitions and characteristics of INSET

Many terms occur in the literature on INSET which are used interchangeably and frequently. For example, CPD (Continuing Professional Development), professional

growth, staff development, teacher renewal, are often used interchangeably in discussing both the needs of individual development and the needs of organisational growth, but this may change again as time goes by. Dean (1991) states, the terms 'staff development', 'professional development' and 'in-service education' tend to be used interchangeably for both the process of individual development and that of organisational growth. Williams (1982) suggests that staff development is the process by which individuals, groups and organisations learn to be more effective and efficient. Gawood and Gibbon (1981) describe staff development as an experiential involvement by a teacher in the process of growing. This process is not short-term. It is a continuous, never ending developmental activity. Morant (1981) says of in-service education that it is the education intended to support and assist the professional development that teachers ought to experience through their working lives. Bolam (1993) reminds us that professional development is the process by which teachers and head teachers acquire, enhance and use appropriate knowledge, skills and values.

In the paper, he argues that professional development needs to be more than a service to ensure that the needs of the system are met. He is quite clear that, in the context of CPD, the concept of self-development implies that individuals should take responsibility for their own professional development. The above definitions do not show great differences between the terms 'in-service education', 'staff development', CPD and 'professional development'. Thus these terms will be used interchangeably in this study; though some writers may still claim some distinction between these terms. Educators look at INSET in a variety of ways. Some regard it as means of introducing national, regional and local changes and aims. Others believe INSET is for meeting the teachers' various needs, while some consider INSET is for the improvement of professional standards, making educators more efficient in their workplace. Serving the personal needs, organisational needs and interests of teachers or administrators is another perceived role of INSET, and this is partly what is being looked at in this thesis.

Wood *et al* (1981) suggested eleven assumptions in order to help educators to understand and use an organisational framework for INSET. These eleven assumptions are:

1. All personnel in schools, to stay current and effective, need and should be involved

in in-service throughout their careers.

2. Significant improvements in educational practice takes considerable time and is the result of systematic, long-range staff development.
3. In-service education should have an impact on the quality of the school programme and focus on helping staff improve their abilities to perform their professional responsibility.
4. Adult learners are motivated to risk learning new behaviour when they believe they have control over the learning situation and are free from threat of failure.
5. Educators vary widely in their professional competencies, readiness, and approach to learning.
6. Professional growth requires personal and group commitment to new performance norms.
7. Organisational growth such as social climate, trust, open communication and peer support for change in practice, influence the success of professional development programmes.
8. The school and the individual are the primary unit of change; not the district.
9. School districts have the primary responsibility for providing the resources and the training necessary for new programmes and improving instruction.
10. The school's principal is the gatekeeper for adoption and continued use of new practices and programmes in schools.
11. Effective in-service programmes must be based upon research, theory, and the best education practices.

It is worth noting that these assumptions have been present for more than a decade.

As a broad term, INSET includes all the courses and activities in which practising teachers may participate for the purpose of extending their professional knowledge, skills, attitudes, interests, and performance which are vital for educational change. Oldroyd and Hall (1988) state:

The acronym INSET (inservice education and training) is now widely used to refer to planned activities practised both within and outside schools primarily to develop the professional knowledge, skills, attitude and performance of professional staff in schools

(Oldroyd and Hall, 1991: 7).

In a way of differentiating between this wide range of INSET activities Oldroyd and Hall (1991) group them as follows:

Professional education - the widening and deepening of a teacher's theoretical perspectives by advanced study, e.g. diploma and masters degrees.

Professional training - the development of teachers' knowledge and skills relating to daily work, e.g. workshops and short courses, usually non-accredited but sometimes for a certificate.

Professional support - activities within schools that aim to develop on-the job experience and performance, e.g. job rotation, peer coaching or collaborative action research.

Cane (1969) also includes preparation for an advanced degree or the achievement of additional qualification subsequent to initial training. Harris (1980) used a more specific definition of INSET as:

any planned programme of learning opportunities afforded staff members of schools, colleges, or other educational agencies for purposes of improving the performance of the individual in a already assigned position (Harris, 1980: 21).

The key phrases in this definition are: planned programme, learning opportunities, improving performance, the individual, and already assigned position.

A 'planned programme' (discussed later) suggests a scheme of specific learning experiences to meet the needs which can be evaluated. 'Learning opportunities' suggests educational provision that is designed to support changed behaviour and attitude. 'Staff members' are persons who are assigned to a particular school or institution. 'Improving performance' refers to changed performance rather than to cope with changed educational needs. It further suggests training, skill development, new knowledge, interests and attitudes which contribute to managing educational change. The individual is the target for personal development. 'Already assigned position' concerns training operations directed toward change. The emphasis is upon improving people's performance of activities in their present position.

Henderson (1979) described INSET as including:

everything that happens to the teacher, from the day of taking up a first appointment to the day of retirement, which contributes, directly or indirectly, to professional performance (Henderson, 1979: 17).

The above description fits the continuity of professional development in the field of educational change. It also fits reasonably closely with that issued by the Department of Education and Science (DES 1970) as any activity which a teacher undertakes, after he has begun to teach, which is concerned with his professional work. This point is relevant to the present study in that it recognises the importance of INSET as continuing professional training, which enables teachers to be effective, whatever the change.

Cane (1969), in co-operation with a number of teachers and administrators, sets out another definition of INSET:

In-service training is taken to include all those courses and activities in which a serving teacher may participate for the purpose of extending this professional knowledge, interest or skills. preparation for a degree, diploma or other qualification subsequent to initial training are included within this definition (Cane, 1969: x).

It would seem from these definitions that INSET is aimed at supporting a teacher's development. This differs from Eggleston's (1965) narrow view of INSET earlier, where it applied to 'courses leading to recognised qualifications'. In terms of time, location and focus of in-service training courses Munby *et al* (1987) state that: we take the term 'in-service training' to mean long or short courses, either at the teacher's place of work or elsewhere, which are focused around particular subjects or themes.

Here INSET courses may aim to impart information, raise awareness and understanding, encourage critical analysis, develop skills and evaluate outcomes. In-service training could incorporate all of these elements, where appropriate. Those training courses which, for example, aim to impart information and develop skills without encouraging or allowing for critical analysis will either produce discontent amongst course participants or teachers who do not fully understand the rationale behind the scheme they are being asked to implement. Thus they would be unable to deal effectively with critical questioning from colleagues back in their own institution.

INSET constitutes a second training stage which the teacher may experience at any

time after pre-service or initial training, throughout his/her professional life. It may take various forms: it may be full or part time, it may be formal, involving highly structured work over a given period and learning to a formal qualification, or it may be informal, involving evening and/or holiday study. The latter form of training is undertaken for the teacher's own self-improvement and does not lead to any specific qualification. Thus it is not undertaken with the aim of obtaining increased pay or promotion.

The term INSET is very broad in its scope, encompassing not only courses and conferences but also various informal activities, and is applicable to work at many levels and by many agencies, whether committees, study groups, or private individuals. The effect of INSET has linked to that of a tonic or injection, renewing the teacher's vitality and protecting him from 'disease' (Levin, 1962).

At this stage it may be useful to consider INSET in relation to the concept of educational change (the section concerning INSET in curriculum change will be discussed later). Writers such as Eraut (1972); Fullan and Pomfret (1977); Bolam (1981); Taylor (1989); Fullan and Hargreaves (1991,1992), have drawn attention to the need for INSET for educational change. For educational innovations to be successful, the implementation plan needs to provide time for the people involved to understand the changes and adjustments to their practice (Taylor, 1989; Fullan, 1991).

For the purpose of this study, it has been necessary to adopt a more flexible view of INSET, making a balance between both concepts: staff development which focuses on the group, organisation and the requirement of the system as a whole, and INSET which focuses on individual need. However, one goal of this study is to examine INSET as planned courses and organised activities in the way of systematic provision, with the aim of providing school personnel, particularly teachers and principals with the knowledge, skills, techniques and new attitudes they need in order to manage educational change, and to be able to face the new demands of new curriculum and study plans. There is the need to relate teacher development and educational change. It is surprising how little systematic attention has been devoted to understanding the topic and taking appropriate action (Fullan, 1991). The logic and evidence linking staff development to successful implementation of change is relatively straightforward, although there are a number of subtleties and complexities in the process. Fullan and Pomfret (1977) marshalled considerable evidence that

demonstrates how staff development and successful implementation of changes were related. This echoes the point made in section one of this chapter.

Effective implementation incorporates transformations in curriculum material, instructional practices and behaviour, and beliefs and understanding on the part of staff involved in given changes. Put more simply, successful change involves learning how to do something new. As such the process of implementation is basically a learning process. When it is linked to specific change, staff development and implementation go hand in hand. This view is supported by Stallings (1989). This series of experimental studies also illustrated how staff development was coupled to change in teacher practice, and in turn to growth in student achievement. Stallings noted that teachers are more likely to change their behaviour and continue to use new ideas under the following conditions:

1. They become aware of a need for improvement through their analysis of their own observation-profile.
 2. They make a written commitment to try new ideas in their classroom the next day.
 3. They modify the workshop ideas to work in their classroom and school.
 4. They try the ideas and evaluate the effect.
 5. They observe in each other's classroom and analyse their own data.
 6. They report their success or failure to their group.
 7. They discuss problems and solutions regarding individual students and/or teaching subject matter.
 8. They need a wide variety of approaches: modelling, simulations, observations, critiquing video tapes, presenting at professional meetings.
 9. They learn in their own way continuity to set new goals for professional growth
- (Stallings, 1989:3-4).

In summary, INSET is defined here as a planned and organised effort to provide teachers and other educational workers with the knowledge and skills necessary to facilitate improved student learning and performance as well as managing changes that may occur in the area of education. In addition, school staff, particularly teachers and head teachers, are a vital link in school improvement efforts. At the classroom level

teachers are the significant, if not the most important element. It seems clear that positive change will not take place without the support and the commitment of teachers. Crandall (1983) comments that: failure to understand the relationship of teachers to the school improvement process can result in a corresponding failure to improve the level of education provided by our schools.

Positive educational change and improvement depend on what teachers think and do. As teachers play a central role in educational change and school improvement, then it is important to consider their working conditions as a main determinant of the change process. Dalin *et al* (1993) argue that effective educational change in practice does not usually occur without improvements in the teacher's work conditions, a view echoed by Herzberg (1968).

Overall purposes and motives in INSET

As indicated earlier, INSET not only concerns change but also reinforcement/consolidation. It is about teachers' professional growth so that they can learn how to be more effective and efficient in performing their roles as teachers.

Johnston (1971), in his work 'Teachers' In-service Education', identified several points as the main purposes of INSET including: (a) extension, consolidation, acquisition and rehearsal of new and existing knowledge; (b) acquaintance with curricular and psychological development; (c) acquaintance with the sociological, organizational and administrative bases of education, including cultural change; (d) understanding of policy initiatives and changes (local and national and international); (e) pedagogical and assessment changes, often through technology; (f) the impact of research on education.

Almost a decade later Joyce (1980), stated three main purposes of professional development:

- The social need for an efficient and human educational system capable of adaptation to evolving social needs;
- The need to find ways of helping educational staff to improve the wider personal, social and academic potential of the young, and
- To develop and encourage the teacher's desire to live a satisfying and stimulating personal life, which by example as well by precept will help his students to develop

the desire and confidence to fulfil each his own potential.

In 1982, Bolam devised a list of five main purposes of INSET, or as he called it, 'continuing education':

- 1) Improving the job performance skills of the whole school staff or of groups of staff (e.g. a school focused INSET programme).
- 2) Improving the job performance skills of an individual teacher (e.g. an induction programme for a beginning teacher).
- 3) Extending the experience of an individual teacher for career development or promotion purposes (e.g. a leadership training course).
- 4) Developing the professional knowledge and understanding of an individual teacher (e.g. a Master's degree in educational studies).
- 5) Extending the personal or general education of an individual (e.g. a Master's degree course not in education or a subject related to teaching).

A more up-to-date report on INSET was written by Eraut (1989). In this, he defended the use of INSET, and pointed out that national governments have given it more attention recently because: (i) they believe that educational practice needs to be more closely linked to national needs and/or the needs of the local community; (ii) approaches to educational change which neglect the INSET dimension are usually unsuccessful; (iii) teachers, like other adults, need continuing education to keep abreast of changes in modern society; (iv) there is growing concern in some countries about the quality of teaching and career development of those who have had basic education and training than current recruits to teaching; (v) demographic trends have reduced the demand for new teachers in some countries, cutting off one important source of new ideas, diminishing career prospects, and focusing attention on those teachers who are already in service; (vi) the general feeling that education has failed to fulfil the hopes of the expansionist era between 1964 and 1974 has created a public pressure for improved school performance.

In 1990, Bradley in his work on school development and the management of change, attempted to answer the question: 'What is the purposes of staff development?' as follows:

- to make people valued in the job they do,

- to enable them to do this job well so that they receive the positive feedback essential for job satisfaction and for motivation,
- to help them to anticipate and prepare for changes in their work,
- to encourage them to derive excitement and satisfaction from their involvement in change, and
- to make them feel willing and competent to contribute constructively to the development of the school.

Bradley's suggested purposes of staff development are that people may want recognition in their job, they may wish to perform to the best of their ability and be well prepared for the challenges and changes facing them in their job. In this sense teachers will then feel encouraged to be more effective in their teaching and this may result in better management of educational change.

As we can see from the above review of the purposes of INSET, the writers generally share a common purpose for the last three decades. Although INSET programmes vary widely in their context and format, they generally share common purposes. Specifically, they are designed to alter the professional practices, beliefs, and understanding of school persons toward an articulated end (Griffin, 1983). In most cases, that end is the improvement of student learning. Staff development programmes are a systematic attempt to bring about change: change in classroom practices of teachers, change in their beliefs and attitudes and change in the learning outcomes of students. Guskey (1986) argued that:

- In-service staff development is to bring about changes ordered from above. For instance, the Board of Education, upon recommendation from the Ministry of Education can introduce a new programme that requires a group or all of the teachers to make some changes, either in methods or content. The clear follow-up procedure is to introduce in-service staff development programmes to assist the teachers in making the necessary changes. In some cases, assistance external to the school is employed. In others, within-district consultations are given this responsibility.
- Staff development can make changes to answer a specific school problem. For instance, the school staff may have decided that changes are needed in the science

programme; there is common agreement that the students are not doing as well in the school as in other schools in the area. In this instance, the needs assessed by staff may lead to the selection of a new science programme. As a consequence, it may be decided at the that staff development is needed to assist teachers in implementing the new science programme. Perhaps the district science consultant may be turned to for assistance.

- INSET can be used to improve teacher performance. This decision is most often the result of the performance appraisal of the teacher by school principal, vice-principal, and/or a supervisory officer. The staff development process in this case is an individual programme, often with assistance by the school administrator and/or support staff employed by the area.
- To solve an individual problem. For instance, the teacher has identified a teaching problem that he/she wants to solve. The teacher usually initiates a programme of assistance; the type of activity undertaken can take one of many forms, from an informal discussion with another teacher to a formal course of study.
- To gain promotion to another position. There are many sources of programmes directed to assist teachers who wish to move to other positions. Some school districts conduct their own programmes for those who aspire to positions of greater responsibility. For instance, the district may offer a programme for people identified as future school principals, which consists of bi-weekly sessions where current administrators and outside personnel speak on issues of importance in administration. More sophisticated efforts in this direction involve regular courses, utilising in-basket techniques, assessment centre techniques as well as readings and assignments.

What is being seen here is the very wide embrace of INSET, and, importantly its role in changing teacher behaviour. This echoes the point raised by Dalin *et al* (1993) that the locus of change is at the personal and intrapersonal levels. Indeed one purpose of this thesis is to indicate the priorities for INSET in changing teacher behaviour, though, as was indicated earlier in this chapter, this will studiously avoid going into detail on the psychological dimension; that is another thesis.

The importance of, and needs for, INSET

The quality of education is greatly determined by the quality of teachers and their teaching. Teacher education institutions can bring teacher candidates to the point where they can enter the classroom with what is often called '*entry-level proficiency*'. '*Mastery-level proficiency*' can be obtained after a broadening and deepening of understandings and skills based on extensive practical experience. Besides, changes in society and education require a continual updating of teachers' professional knowledge, skills and attitudes (Dalin and Rust (1996) outline a range of such changes, e.g. changes in social structure, information technology, family patterns, culture, demography, globalisation, and they indicate the need for INSET to keep teachers abreast of these, q.v.).

Wideen and Andrews (1987) answered the question 'Why Staff Development?' by putting forward three arguments to support the importance of staff development:

- 1) the increased knowledge base;
- 2) the new social complexities in which schools find themselves today;
- 3) the continued need for self-renewal.

It can be seen that two environmental forces - society in general and the virtually closed environment of the school itself (Griffin, 1987) impact on change, echoing Skilbeck's (1975) point that change is the outcome of the interplay between macro and micro factors. These two forces display their influence at different levels. 'Social forces' influence school activity more at the policy level although it will also make an impression on educational practice. The 'school environment force', however, directly influences the daily activities of the school staff. To acknowledge both forces when planning staff development programmes, can have as powerful and positive an impact as to consider what the programme will contain. According to Griffin, this is the case because:

A programme to provide teachers with opportunities for professional growth must be seen in terms of the school culture into which it is to be introduced and in terms of the social forces that will promote or widen its movement towards success (Griffin, 1987:36).

It is doubtful whether any kind of pre-service teacher training can prepare a teacher

fully for a teaching career. Thus, there is a perceived need for teachers in service to extend their teaching methods and knowledge while experiencing personal growth (Henderson, 1975).

In view of the above it may be argued that, there is great need for teachers to continue learning in a society where social problems are experienced and social values are in rapid transition. The evidence of the need for INSET has been consistently documented in literature. INSET programmes can be of great value in developing further professional teachers. Fundamentally, INSET programmes are important for the following reasons, as described by Harris and Bessent (1969):

1. Pre-service preparation of professional staff members is rarely ideal and may be primarily an introduction to professional preparation;
2. Social and educational change make current professional practices obsolete or relatively ineffective in a very short period of time. This applies to methods and techniques, tools and substantive knowledge itself;
3. Co-ordination and articulation of instructional practices requires changes in people. Even when each instructional staff member is functioning at a highly professional level, employing an optimum number of the most effective practices such an instructional programme might still be relatively uncoordinated from subject to subject and poorly articulated from year to year;
4. Other factors argue for in-service education activities of rather diverse kinds. Morale development can be stimulated and maintained through in-service education and is a contribution to instruction in itself, even if instructional improvement of any dynamic kind does not occur (Harris and Bessent, 1969:3-4).

With substantial continuing growth in competence of personnel serving in schools, the heavy reliance on teachers to perform nearly all tasks required for building and maintaining quality educational programmes is a reality that cannot be treated lightly. It is this reality that gives INSET both its importance and its urgency.

Faloughi (1980) identified six categories of reason why there is a need for INSET activities for teachers:

1. Transitional: as introductory activities to allow teachers to move from generalised, in-service education to a specific role;

2. Job-specific: as a response to typically recurring needs and problems in a particular situation;
3. System-related: as a response to dramatic changes in society and the schools. Because of these changes, teachers must reorient or redefine their roles;
4. General professional development: as a means of staying up to date professionally without regard to applying the information to one's specific situation;
5. Career progression: as a means of changing roles or responsibilities;
6. Personal development: as a process of understanding and enhancing the individual in a professional role.

Brown (1972) showed how important it was for teachers to know how to use modern teaching tools. He said that although some teachers had such knowledge when they began teaching, there were many who had received little or no preparation for this technical aspect of their work.

The National Education Association (1971) in the USA conducted a national survey which showed that there was an enormous lack of tuition in the use of the latest technological teaching aids. As technology is becoming more and more widespread in schools and is likely to continue to do so, it is obvious that this situation needs to be rectified, and teachers must become fully capable of using the latest technological advance. On a similar theme, in 1971 the Central Committee of Advisors and Teachers in the UK stated that even at its best, training can only be a starting-point. Both inexperienced teachers, and the more experienced who qualified before the development of modern educational aids, need INSET for the new educational technology. The report also states that it is important for teachers to recognise that they must change their own roles as the pattern of educational patterns develops. It suggests that teachers should become less instructive, and develop their role as a 'guide, stimulator and initiator'. For this change to take effect, it is obvious that teacher training needs to be reconsidered at both initial and in-service levels.

The DES (1972) commissioned a study of teacher education and training, and in this was the following list of priorities for INSET:

[t]o extend and deepen their knowledge of teaching methods and of education theory, ... to acquire a better understanding of the principles and methods of educational technology, especially if this

was not imparted to them in initial training, ... to keep abreast of the results of educational research and experiment, ... to be informed about the use of new books, materials and equipment, ... to widen their command of the content what they teach, ... to realise the teacher choice to make change, ... to be able to face the new demands of new curriculum and study plans, ... to teach subjects for which their education and initial training has not prepared them (DES, 1972: 7).

A study by James entitled *The James Reports Third Cycle* (in Watkins, 1973) expressed the absolute necessity for INSET as knowledge changes:

I took a degree in Chemistry in 1930. If I look at the papers set in the same examination today I cannot do them: that would not be expected. But the real point is that I never could have done them, because two-thirds of the knowledge required actually did not exist at the time. And some of that knowledge is now part of the school curriculum (Watkins, 1973: 12-18).

This suggests that there is new development in education and to effectively manage this development requires INSET. Such advantages of knowledge, in Watkins's view, is paralleled by changes in teachers, teaching, and society as a whole. Such changes lead to the creation of gaps in the educational system, which INSET helps to fill by imparting new skills, developing curricular and encouraging the formation of new attitudes, through such schemes as that sponsored by the former Schools Council.

A brief summary of the obvious objectives of INSET culled from the diverse literature, may be given in the following points:

- 1) INSET brings an improvement in teaching strategies, and may provide a basis for enhanced career development;
- 2) It promotes continuous evaluation and helps staff keep abreast of education development;
- 3) It orientates new teachers to their job situation, assessment materials, resources, policies, and rules;
- 4) Superior methods of instruction and style of teaching results in much improved students;
- 5) INSET can contribute to effective research and classroom organisation;
- 6) INSET integrates both environment and career education into the total programme;

- 7) Teachers are given the opportunity to understand management systems;
- 8) Learning strategies for students with learning problems can be developed and improved;
- 9) INSET facilitates active participation in important problems, allowing staff to use their creative abilities, and to redefine their roles in response to change.

As we can see from the above view, INSET plays a number of different roles in educational system and society as whole such as: for managing educational development/change, for continuing professional development, for managing cultural differences, and for understanding management systems.

It should be noted, therefore, that no single study can address each of these links at great depth. There is a great concern about the need of INSET for educational change. This is emphasised by most of the writers reviewed above. The present study will address one specific role of INSET with particular reference to curriculum change. The main objective is to identify the effective kind of INSET for managing change.

The case for INSET

The case for INSET rests on the needs of the education service, of individual schools and teachers themselves, themselves part of an education service that serves wider needs, e.g. social, economic, political, cultural, technological needs etc. First, it is common understanding that the education service needs an up-to-date, well-trained teacher force contributing to effective curricular change. Secondly, individual schools need a vital and committed staff, working to agreed goals in a climate which encourages effective development in curricular change and teaching quality. Thirdly, teachers themselves need opportunities for INSET as part of their personal and professional development. The needs of the education service, of individual schools, and of individual teachers are, of course, closely interrelated. They call for a wide range of INSET activities and flexibility of response.

Some examples are presented below of the ways in which curricular and organisational change have had or will have profound implications for the management of the teacher force and for INSET. In Libya such changes may be initiated within schools, perhaps simulated by major national reports on education, or may be in response to social change and other external pressure - for example, the

raising of the school leaving age, falling rolls, or a desire for alternative forms of school organisation, or for other reasons.

Developments in the UK in the content and balance of the curriculum and in the examination structure are likely to continue apace, particularly since the National Curriculum of England and Wales. The requirements of the 1981 Act dealing with children with special needs, the implementation of the Cockcroft Report on Mathematics Teaching, the increased emphasis on the technical and vocational aspects of school learning, the growth of intercultural education and recognition of the need for differentiation to meet the variation in the background, ability and aptitude of pupils have given, and will continue to give rise, to demands for appropriate in-service education and training (Glatter *et al.*, 1989). In Libya such developments reinforce the need for INSET opportunities to be made widely available for curriculum development and to enable all teachers to contribute and to keep abreast of development both in teaching methods and in their subjects. Further, many subjects have changed so rapidly in recent years that teachers need to keep constantly in touch with new developments (the scope of these will not be pursued in this thesis, rather the point to be made here is that change is unavoidable). Other subjects, e.g. computer studies, are comparatively new, so INSET is required to help teachers to change or expand the range of their teaching if the demands are to be met.

Curricular and other development in education require new skills on the part of teachers. The advent of computers in schools, for example, requires the development of skills in their application to the classroom. The development of Records of Achievement adds to the growing need for appropriate assessment skills on the part of teachers. The new criteria against which initial teacher training courses are assessed, by requiring the involvement of practising school teachers in initial teacher training, have created a need for suitable skills on the part of some teachers, particularly in the supervision and support of students' school experience and assessment of their classroom performance. In Libya, INSET can have an essential part to play in enabling teachers to acquire or sharpen such skills and, above all, to improve their own practical teaching skills.

The importance of managerial skills of head teachers and senior staff to enable them to carry out their increasingly difficult and complicated roles is vital, particularly in leading change. INSET is an essential means by which those likely to become head

teachers or to hold senior positions in schools can be helped to acquire the necessary skills. In Libya, INSET can play an important part, too, in equipping teachers for new extended roles, including a change of school or type of school, for example, from large to small, or urban to rural.

In cases where the management of falling school rolls has required the redeployment of teachers from one subject to another, INSET has played a crucial role in enabling teachers to change or expand the range of their teaching. More generally, falling school rolls have led to a shift in the age structure of the teacher force towards the older age groups and to a reduction in promotion prospects. In Libya these circumstances place an important role for INSET in helping teachers to strengthen their sense of purpose and morale.

INSET thus serves many purposes and is essential to the maintenance of a well-trained, up-to-date teaching force. Increasingly it has been found that the basis for change and for effective identification of the need for training and its implementation is the quality and climate of the school (Dalin *et al.*, 1993; Morrison, 1998).

INSET has a crucial part to play in assisting the teacher's own personal and professional development. It is inevitable that teachers, in common with other professionals, will become less efficient at their jobs if they do not obtain the stimulus of widened experience and continuing education. Teachers need to be able to respond positively to the curricular needs of the individual pupil, of the class and of the school as a whole. In Libya INSET is likely to be the most effective way of strengthening teachers' confidence and enabling them to re-invigorate their thinking and their approach.

Opportunities to undertake curriculum development and to update subject knowledge are needed by all teachers as a normal part of their professional development. This thesis already referred to the implications for INSET of rapid changes that have taken place in some subjects and the development of new subjects. In Libya these have reinforced the need for INSET for teachers in the fields concerned.

Some teachers will wish to have also the opportunity to acquire or develop particular skills in order to enhance their professional development. INSET serves too as a preparation for teachers who wish to move into new areas of work such as careers advice or counselling, or take on new responsibilities, for example increased pastoral

responsibility, senior posts requiring management skills, or particular responsibility for children with special educational needs. In Libya these are expressed in the view that high priority should be given, for example to the in-service training of teachers to meet special educational needs.

Finally, the case for further study through courses or research programmes leading to an advanced professional qualification or an appropriate higher degree is an important means of developing professional knowledge for teachers and will increasingly be sought as the profession becomes a graduate one (as has already taken place in the UK). Second degrees may become desirable as a means of enhancing promotion prospects as first degrees have been hitherto.

Human resource management

Human resource management (HRM) can be viewed as a comparatively new approach to personnel management which considers people as the key resource. The need to regard Human Resource Development (HRD) and HRM as key components of INSET is immense, for it takes seriously the argument, set out in the previous discussion of change, for change to focus on the real needs of real people. It subscribes to the notion that it is important to communicate well with employees, to involve them in what is going on and to foster their commitment and identification with the organisation. In addition, a strategic approach to the acquisition, management and motivation of people is heavily emphasised (McKenna and Beech, 1995). HRD, it was argued in the earlier section, is a critical component of effective change. Effective change is premised on people and their development, and echoes the psychological dimension of change discussed earlier in this chapter.

If HRM gets some of its basic sustenance from the practice of personnel management, this begs the question: what do we know about the origins of personnel management and its current standing? Before answering this question, an introduction to personnel management would be useful. Personnel management assists with the management of people in an organisation. It is concerned with establishing, maintaining and developing systems which provide the framework of employment. These systems operate throughout an employee's membership of the institution, starting with the system for entry (recruitment and selection) through the management of the employment relationship (reward, appraisal, development, industrial relations,

grievance and discipline), finishing with the termination of the relationship (retirement, resignation, redundancy and dismissal). This management process is underscored by the drive for efficiency and equality of opportunity.

Rogoff (1994) describes humans learning together as a 'community of learners' and suggests that learning is 'a process of transformation of participation in which responsibility and autonomy are both desired'. Whilst learning itself is a natural process, and so will occur regardless of the social environment, the *quality* of learning may differ according to both the environment, the level and kind of participation, and the learning biography of the individual, underlining the significance of the psychological dimension to change indicated earlier. Learning processes and outcomes, therefore, will differ with each individual, their social circumstance, attitude and life history. This argues for INSET for HRD to be person-centred and differentiated to individual needs. On-the-job learning which results in growth of personal practical knowledge will be idiosyncratic, *ad hoc*, alone. It will be largely implicit, unremarked and unrecorded. Crawford (1995) states that in the new systemic view of human action and development the relationship between people and the arena in which they act is an important factor that shapes the nature of the experience and the form of knowledge or insight gained.

It follows that if personal knowledge is shaped in part by the contexts in which it has been used, then transfer of knowledge between contexts is limited (Eraut, 1994). An important aim of adult learning, whether it is directly concerned with enriching the individual as person or the individual as employee, is to address the dialogical relationships between theories (why we do what we do) and practices (what we do and how we do it). In this way transfer of knowledge problem is minimised. This is a traditional and a routine part of most adult educators' values and repertoires.

The Human Resource *planning process* has developed from what was previously called manpower planning. Human resource planning is concerned with matching the organisational demand for quantity and quality of employees with the available supply; the demand is derived from current and forecasted levels of institutional operations. The planning exercise outlines the staffing needs of the organisation and provides useful information for a number of activities listed below, e.g. selection, training and rewards, i.e. concerned with establishing what type of training is required and who should receive it. Training ranges from simple on-the-job instruction to

educational and training courses offered by providers external to the organisation. Training, coupled with development, is apparent when organisations plan the progression of key employees through the institution, in which case an attempt is made to reconcile organisational needs with individual career development.

Objectives of an HRM system

The following list reflects the major items would expect to find in a set of objectives relating to an HRM system (Armstrong, 1992):

1. The company's objectives are to be achieved through its most valued resource - its work-force.
2. In order to enhance both individual and organisational performance, people are expected to commit themselves to the success of the organisation.
3. A coherent set of personnel policies and practices geared towards effective organisational performance is a necessary prerequisite for the company to make the optimum use of resources when striving to meet business objectives.
4. An integration of HRM policies and business objectives should be sought.
5. HRM policies should support the corporate culture, where appropriate, or change the culture for the better where it is deemed inappropriate.
6. An organisational climate which is supportive of individual creativity and in which energetic endeavours should be nurtured. It will provide a fertile terrain for the promotion of teamwork, innovation and total quality management.
7. The creation of a flexible organisational system that is responsive and adaptive, and helps the company to meet exacting objectives in a competitive environment.
8. A determination to increase individuals' flexibility in terms of the hours that they work and the functions they carry out.
9. The provision of task and organisational conditions which are supportive of people trying to realise their potential at work.
10. The maintenance and enhancement of both the work-force and the product/service.

These are key features that are addressed through the questionnaire survey in this thesis, itself designed to adopt a person-centred view of change. An important feature

is the management of human resources in a strategic way when managers are pursuing normal commercial and organisational objectives. It seems as if HRM is a frame of mind determining a behavioural perspective on everything a manager does from policy making to normal everyday decision making (Armstrong, 1992).

HRM can be seen as a development which originated from traditional personnel management and which has replaced it to some extent. Key managers and some professionals in the personnel function felt the old system was no longer functional and there was a need for a change in the status of personnel practitioners as well as for getting them more involved in business decisions. HRM also reflects changes in philosophies and practices with respect to the management of people in an organisation.

In HRM there is a greater emphasis on strategic issues, and the way in which the human resource contributes to the achievement of corporate objectives. Among the natural concerns of the organisation are sensitivity to the needs of stakeholders, the development of human resources to meet future challenges, and ensuring that people's energies are sufficiently focused in order to add value to organisational inputs. HRM underlines the importance of flexibility and the ability to react and adapt quickly to changes in the organisation's environment. It is also concerned with quality management, where the requirements of the quality of both the operations of the organisation and the product or service trigger a need for high calibre staff to secure competitive advantage (McKenna and Beech, 1995).

Although HRM unashamedly embraces a cost-effective business approach, it values employees for perfectly understandable reasons. Being concerned with the well-being of people is seen as a powerful way to motivate and inspire the workforce. HRM takes a systems approach to the analysis and management of organisations. It likes to see the different parts of the organisation functioning effectively and together moving co-operatively towards meeting the overall goals of the enterprise. This is facilitated through the management of systems such as human resource planning, recruitment and selection, appraisal, training and development, and rewards. These systems must be integrated and 'pull in the same direction'. In this way the HRM function assists the organisation to be more effective and profitable (McKenna and Beech, 1995).

What is being argued here is that INSET must be seen as a form of human capital

investment, and that HRM and HRD are inescapable features of effective change and innovation. The moves to increase the study of HRM in education place an important responsibility on INSET providers, funders, organisers to identify real needs and to strive to meet them in managing change and innovation. Managing person-centred change through INSET is a significant response to demands for HRM and HRD to be utilised in the education sector. How this view of INSET within a change agenda is addressed is the subject both of a review of the context of Libya in the next chapter and in the empirical survey in subsequent chapters. A central principle of the empirical survey is that INSET is a huge means of HRD, and, therefore, that it has to be managed effectively, and that this requires attention to individual, personal perceptions of, and requirements for, INSET.

CHAPTER

3

THE LIBYAN EDUCATIONAL SYSTEM AND ITS DEVELOPMENT

Introduction

This chapter discusses the historical background of the Libyan educational system and its development. This includes the change influences on the educational system by differing cultures, language, religion, politics and socio-economic states, and the way in which teacher education and in-service training has evolved throughout Libya's history. The purpose of this chapter is to facilitate understanding of the patterns of education and to appreciate the educational development and change taking place over time, and to assess whether the standards of teacher education and in-service training are adequate to meet the changing needs of a developing society. All levels of education are described, but special emphasis is placed upon education change and teacher education and its development because these are the areas in which research is most limited.

The burden of developing an effective educational system has been heavy because of the long period during which Libya was colonised by foreign countries. Currently education is one of the most discussed issues in Libya; perhaps the two most central issues are those concerned with teachers' performance and curriculum innovation. The country has so few natural resources that there is heightened significance for the quality of its human resources; especially in the educational field. Therefore this study will argue for the need for INSET and its essential role in the continuing professional development of teachers, with particular reference to education change and innovation.

This chapter seeks to show the development of the educational system in Libya up to the present time. Also shown is the level of teacher education and INSET programmes implemented to deal with this development over time, and the problems incurred during such development. The strengths and weaknesses of those

programmes provided thus far, are identified and assessment of their relevance for the particular needs of Libya in the 1990s is undertaken. The purpose of this research is to establish the need for INSET in Libya and to identify the most effective system, organisation, contents and evaluation of INSET and CPD.

Historical Background and the Development of Education in Libya

Since ancient times, Libya was coveted by foreign powers and came under the influence of many cultures. Among the known races and nations which ruled Libya were the ancient Egyptians, the Phoenicians, the Greeks, the Romans, the Vandals, the Byzantines, the Spaniards, the Arabs, the Turks, the Italians, and finally the British and French. These nations were drawn to Libya by 'the importance of its geographic location on the Mediterranean, its connections with central Africa, the clemency of its climate and the fertility of its soil' (Ministry of Information and Culture, 1968: 19). All these conquests made their cultural mark in the religious, social and political life in every town in Libya. The focus of this chapter is on the period since Arab rule (643) to the present time in particular, because it was from this time that most influence was exerted on the country. However, the most profound and lasting influence was that of the Arab Conquest. Khalidi stated that:

it can be confidently assessed that the years of Arabs, Turkish and Italian rule and the final short period of French-British rule all left their marks on the religious, social and political life of the people. But of all these conquests and occupations, none had a more profound and lasting effect than the Arab Conquest, for throughout all these centuries the country has remained Arab in culture and Islamic in religion (Khalidi, 1956: 7).

Before independence in 1951 there were few educated Libyans in the country; education was scant and unbalanced, and illiteracy was widespread. It was stated in the *Report of the Mission to Libya* that at the time of independence more than 90% of the adult population were illiterate (UNESCO, 1952: 13). Under the Turkish and Italian administrations, education received little official support. The Stanford Research Centre (1969) in *The Area Handbook for Libya* stated that the education which was available to Libyans at that time was affiliated to mosques and other religious organisations. This statement that education was largely religious in content was supported by Farley, thus:

The history of education in Libya followed the political and cultural history of the country ... the Arab Conquest of Libya in 643 initiated the spread of Islam, of the Arabic language and of religious education. The Arabs built a series of mosques which served as a religious centre for schools and as training grounds for the military defence of the Islamic religion (Farley, 1978: 77-78).

After these centuries of foreign conquest, Libya obtained its independence on 24 December, 1951. This event has had a most profound impact on all aspects of Libyan life, especially education, which had never received major attention from any of the occupying forces that had controlled Libya before independence (El Shabani, 1962:10). When Independence was granted there were less than 20 Libyans with university degrees, and there was a severe shortage of people qualified to fill administrative and executive positions. Severe economic problems and poor management of available resources impeded the development of a healthy education system. However with the discovery of oil in the early 1960s came radical change in the Libyan economy, which eradicated the economic impediments to education, and more schools and educational establishments were built.

Since the Revolution of 1st September, 1969, the rate of change of all aspects of life within the country has accelerated dramatically by using the wealth derived from the oil revenues for the benefit of all the citizens of Libya. The government's aim to raise the living standards of Libyans and maintain these changes has been pursued through its economic and educational policy. Education has seen significant growth in the numbers of pupils in all levels of the system. The focus of education has changed from predominantly religious in content to more technical/vocational training becoming available to meet the needs of the expanding economy. The need for suitably qualified teachers to accommodate these changes in the curricula has been highlighted, and therefore suitable INSET programmes need to be available to deal appropriately with these changes and to continue the professional development of teachers.

Libyan Education during the Arab Rule (642-1517)

Education in the Arab world was disorganised and unsystematic until the prophet Mohammed brought the message of Islam. Ghamdi (1977) in his Study of Selected Factors Related to Student Dropouts in the Secondary Schools of Saudi Arabia

describes the impact of Islam:

In the Arabian peninsula, education remained haphazard until the message of the prophet Mohammed came from the Holy City of Mecca like a light in the wilderness. This was an amazing advance in human thought at a time when the whole world lived in the darkness of ignorance. The prophet was the first teacher; the Qu'ran, the first textbook, and the Mosque, the first school (Ghamdi, 1977: 16)

Islam emphasises the importance of knowledge. The first revelation of the Koran begins with the divine command, 'read'. The Koran urges people to seek knowledge. Respectively, in Koran as translated and commented on by Ali (1973):

Read in the name of the Lord who created, who created man of a clot of congealed blood. Read and the Lord is the most beneficent. He who taught by the pen, taught man that which he knew not (Sura 96, 1-5).

[b]ut no one knows its hidden meanings except God and those who are firmly grounded in knowledge say we believe in the Book; the whole of it from our Lord, and none will grasp the Message except men of understanding (Sura 3, 7).

The importance of knowledge was emphasised by the prophet Mohammed when he encouraged his followers to seek knowledge. This devotion to and search for knowledge soon made the Arab World the preserver, if not the cradle of, civilisation. Education has a long and honourable history in Arab countries. The main impact of Arabic thought on modern education came during the time of the Islamic expansion in the middle ages when Arabs welcomed and sponsored learned men, scientists, artists, musicians and poets from many places. Arab philosophers established themselves by their significant independent treatises as well as their reliable translations of Greek, Roman, Persian, and Indian philosophers.

The Arabic contributions in education and in all the branches of knowledge are so clear that they cannot be denied; Arabs contributed many original texts in, for example, astronomy, medicine, mathematics, history, and music. They invented algebra and chemistry, the names of which are derived from Arabic words. Arab scientists also greatly advanced our knowledge about astronomy. A list of distinguished philosophers and scholars who have contributed to human knowledge

would include:

- Al-Kindi, (c.801-873) was a prolific author of more than 270 works, who also taught science, logic, and metaphysics in the liberal arts curriculum;
- Al-Razi,(c.854-925) who wrote an extensive summary of medicine and whom many believed to be the greatest early medieval physician. He also made important contributions to alchemy and philosophy;
- Jabir Ibn Hayyan,(c.721-815) an alchemist whose work included experiments on the properties of metals. He also invented algebra and it is from his name the word is derived;
- Al-Farabi, (c.874-895) who was a leading philosopher and author explaining the theories of Plato and Aristotle. In addition to his many philosophical writings Al-Farabi compiled a *Catalogue of Science*, the first Muslim work to attempt a systemisation of human knowledge.

The situation in Libya was no different from that in the rest of the Arab states. The Moslem conquest reached Libya during the seventh century when the forces of the prophet, led by Amr Ibn-As drove westward after conquering Egypt and founding Cairo in 641 A.D. Terence (1968) states that the arrival of the Moslem forces brought unparalleled changes to Libya and affected its culture, language, and, above all, its religion. Soon after the Arab conquest, mosque schools were established in a number of cities throughout the country, among them Tripoli, Misarats, Zelton and Derna. Although the schools emphasised the study of the Koran and the dissemination of its message, these centres of learning also taught science, medicine, and mathematics. The Tripoli mosque, which was established by Amr Ibn-As along with other prominent mosques in the country, became, in effect, a Moslem university in Libya that attracted large numbers of students from all over the Arab world (ibid: 104).

The association of the mosque with education remained one of its characteristics throughout history. In the early days it was the focus of all communal activities. From its pulpit religious education and state policy were proclaimed, within its walls justice was dispensed, on its floors sat pre-teachers and teachers surrounded by adults and children seeking learning or instruction (Tibawi, 1972: 24).

Every Moslem is encouraged by Islam to seek knowledge. In response to the demands of Islam, and in order to read and understand the Holy Koran, the traditions of

Mohammed, the prophet of Islam and Islamic teaching in general, formal education became a basic element of Islamic culture which flourished in this period. Formal learning institutions were established in every community (El Shabani, 1962: 12-13). During this period the mosque schools, which were known as *kuttab*s, (De Marco, 1943: 5) remained even during the Italian colonisation. According to Mathews and Akrawi (1949):

The *kuttab* represents early attempts to provide beginning education for Arab boys who were destined to receive training as religious leaders. It is administered by a Sheikh who collected fees from pupils, receive grants from religious endowments and subsidies from public funds. The *kuttab* was usually a one room school for boys of all levels of progress and grouped together. Emphasis was placed on memorising the Koran, and each individual progresses at his own rate (Mathews and Akrawi, 1949: 40).

Teacher Education and Training During Arabic Rule

Before the Ottoman conquest there was no formal teacher preparation. According to El Shabani (1962):

In most instances, the teacher of the *kuttab* was the leader of the mosque who taught the children of the community, in addition to performing his religious duties in the mosque... In spite of the fact that there were no exact qualifications for the 'kuttab' teacher, there were some minimum qualifications - among them were: to know how to read and write, to have memorised the Holy Koran and to have studied the basic laws and principles of Islam, as well as to have good character. There was no external authority prescribing and defining the qualification of the teacher (El Shabani, 1962:14).

Throughout this long period which lasted for approximately nine centuries there was as we have seen, no public education, teacher training and INSET as we know it today. Religion was the focal point and basic motive for education. Consequently teaching was a most rewarded and praised activity by the Islamic religion. Highest rewards were promised in the hereafter for those who taught others their knowledge and wisdom.

Libyan Education during the Turkish Rule (1520-1911)

From the sixteenth to the early twentieth century, Libya was under the control of the

Turkish Ottoman Empire. These centuries of Turkish sovereignty had a long term negative effect on the country. Libya was isolated and had little contact with the countries of Europe who by that time were emerging from the dark ages. In Europe, scientific and cultural development proceeded rapidly and the first signs of organised industry began to appear. Education in Libya during this period was mainly religious in nature.

The Turks continued the same tradition of allowing education and religion to be closely associated, but in general, they neglected 'state' education, and it became the responsibility of the private sector. Throughout their three and a half centuries of the occupation of Libya, Turkey was suffering from cultural and scientific decline; cultural and intellectual activity was not advocated, so the experience of Libya under the Turkish occupation was merely a reflection of what was happening in Turkey. A Libyan official observed that:

The Ottoman Turks were people of war and administration more than people of high culture and civilisation. They cared little for reform and education and became more and more traditionally bound by inherited concepts (Ministry of Education, 1966a: 5).

Turkish rule did not help or sponsor existing programmes and activities in education which were founded in the early Islamic period. In short, education during the Turkish occupation was extremely basic. Not surprisingly, it was observed that:

These schools were far from solving the Libyans' problems or supporting their demand for a national life. They were dominated by Turkish tendencies and served the promotion of the cause of the Turkish army and the Turkish Administration of the country (Ministry of Education, 1974: 7).

During the Qaramanli period, foreign schools became established in Libya following an increase in the number of Italian elements and the French established schools. Related to these developments, the Ministry of Education in Libya observed:

Besides this religious type of education, there came during the eighteenth and nineteenth centuries a new type of education in Libya with the arrival of European communities, who settled in the country to make their gains from the active commercial interchange between the Sudan and the Mediterranean Basin via Libya. This new type of education became well marked during the period 1711-1835. Among the first newcomers were the Jewish in 1804; they

established the first formal school for their children. The Franciscan Fathers established another school in 1810 for the Christian children. More Italians moved into Libya and the Italian Government began to intervene in the internal affairs of the country as a prelude to its seizure, especially after Great Britain and France covered the Arab East and Morocco from the Ottoman Empire. At that time a large number of Italian schools of all types were established; primary, secondary and vocational schools for boys as well as for girls (Ministry of Education, 1974: 7-8).

During the last decade of the nineteenth century a number of modern schools were instituted along the lines of those existing in Turkey. Among these were: a primary school for boys of three classes (teaching Arabic, Turkish, the Moslem Religion, Turkish literacy, Arithmetic and Geography); a secondary school for boys 'Rushdie' of four classes, (teaching both French and Persian, besides the subjects taught in the primary school); a school for girls, consisting of six primary and three secondary classes (the syllabus being the same as that in use in the boys' schools and normal schools (*Dar El Maulimin*) for training village teachers. There was also in Tripoli a number of *Madreset* and *Koranic* schools for boys who intended to take up a religious education; the course at these schools was for three years, after which students proceeded to El Azaher University in Cairo where they obtained the title of *Ulema*.

In the late nineteenth century the Sanusi religious movement (an Islamic Brotherhood led by Sanusi) stimulated religious education by the establishment of *Zawiyas* (houses of worship and learning) (Ziadeh, 1958: 114). These *Zawiyas* were a form of higher religious institution supplementing the *kuttab*. A mosque was an essential part of each *Zawiya*, but there were also school rooms, guest rooms, apartments for the Sheikh and his family, rooms for teachers and pupils, and houses for the brothers, clients and servants and their families (Evans-Pritchard, 1949: 74). The Sanusi Movement had a significant influence on Libyan religious education and culture, including political life (El Shabani, 1962: 20). This can be illustrated by the number of *Zawiyas* which were distributed throughout the country; by the end of the nineteenth century there were at least seventy *Zawiyas* in Libya.

Teacher Education and Training During the Turkish Rule

During this period a modern public education system was being established and this created the need for teachers, and consequently teacher-training. It was at this time the

need arose for some form of teacher-training institute to be established. A brief description of teacher education during this period has been given by El Shabani:

When modern public education was established in the last decade of Turkish rule, this initiation created the need for teachers capable of teaching in the new established schools. To meet this need, Turkish authorities relied mostly, at the beginning, on their own Turkish officers and civilians who were used as teachers in the modern schools teaching the modern subjects in Turkish. However, they also utilised some Libyans who had graduated from the traditional religious institutes to teach Arabic language and Religion. In the last decade of the nineteenth century, the first teacher-training school in Libyan history was inaugurated. Sixty teacher-trainees were enrolled in this reformed teacher-training school in 1910-1911 (El Shabani, 1962: 28-29).

The effect of this teacher-training institution established in Tripoli was probably minimal. This may be due, in part, to the basic level of education of the entrants, and the lack of qualified personnel to train the student-teachers. Nonetheless, the comments of a representative of the Italian Government in his report (1950) are noteworthy. Thus:

In 1890, Turkey sent to Tripoli an official with the rank of superintendent of schools, to open new schools, he thought fit. He founded a teachers' training school, candidates for admission to which were required to be able to write and read, to know the Koran by heart and possess some elements of language and religious knowledge:

In 1897, the Tripoli School of Arts and Crafts was established and still exists as the Moslem Foundation. When the young Turks took power, they wished to show that they were reformers. They abolished the teachers' training school and set up a new institution according to the European model, staffing it with capable civil and military instructors (United Nations Commission in Libya, 1950: 84).

In relation to this, Naji reported that:

Under the enlightened rule of Muhammed Hafiz Pasha, the Ottoman Wali Governor of Tripoli, modern education in Libya may be said to have begun. Two primary schools for boys were opened and one for girls. A training school for teachers was set up and most important, vocational school for the manufacturing of shoes, silk and for carpentry and printing were opened in Tripoli (Naji,

1970: 182).

However, the training school for teachers and the other schools was inadequate in terms of meeting the problems and needs of the Libyan people:

They were dominated by Turkish tendencies and served the promotion of the causes of the Turkish Army and the Turkish Administration of the country (Ministry of Education, 1966a: 5).

Although it can be seen that throughout most of the Turkish rule in Libya cultural and intellectual pursuits were not encouraged, the main centres of learning were religious institutions. The 'state' focus was principally towards military and administrative promotion of the Turkish cause. However, towards the end of the Turkish rule, development within the education system could be observed with the establishment of modern schools. This development was encouraged through the influence of European communities in Libya. These changes brought about an increase in the demand for teachers, and it was in this period that the first teacher-training establishment was opened.

Libyan Education under Italian Rule (1911-1943)

Italy declared war against Turkey in October 1911. The Italians arrived with the aim of imposing their own culture and political ideology and, wherever possible, they exercised total control over education (Monastiri, 1982: 316). The number and type of schools in Libya at the time of the Italian occupation in 1911 and the following decade are indicated in Table 3.1, which shows the increase in the number of pupils attending official schools in the first decade of Italian occupation, and also the almost total influence of Italian culture on education; as seen by the large numbers of pupils attending Italian Schools, rather than other schools. Two modes of colonisation were employed:

- a) the encouraging of Italian immigration; and
- b) the Italianisation of Libyan education and culture.

However, the regions which Italy was unable to control kept to their traditional education in the Mosque schools, or *kuttab*s (Ministry of Education, 1966a: 7). Elsewhere, colonial penetration through education was particularly strong in regions where Italian immigrants settled. Consequently the effects were that:

[t]he young generation was pulled by two types of education: the one which expressed Arab culture and was conducted in the mosque schools, *Zawiyas* and the mosques, and the second which effectively expressed colonial motives and greed. To freeze the first type and support the second, colonialism turned to issue oppressive laws and ordinances. Later, there was the Education Ordinance of 1914, according to which Italian Arab Schools were established, in which all subjects, except the Arabic language, were taught, in Italian. Also the ordinance of 1915, which made all the mosque schools subject to Italian inspection and censorship. In 1917 an Ordinance was issued separating the Administration of Education in Libya from the Italian Ministry of Education for the purpose of directing it on colonial lines (Ministry of Education, 1966a: 7).

Farley (1978) expounded this situation even further and went on to say:

The Italian occupation in 1911 witnessed direct attempts to suppress the Sanusi educational directions, indeed the whole organisation under the educational ordinance of 1914, all teaching in schools was conducted in Italian, except the teaching of the Arabic language itself. In 1915 all mosque schools and *Zawiyas* became subject to Italian inspection and censorship (Farley, 1978: 80).

This approach was terminated when the Fascist party came to power in Italy. The new leadership was determined to use military force in order to occupy all Libya and to make it a part of Italy. Parliament was dissolved and military action was resumed until the whole country was subjugated. Consequently, the Sanusi *Zawiyas* were ordered to close. Farley also stated that:

After World War I, Fascist Italy entered upon sustained and directly brutal efforts to obliterate all Sanusi educational influence. The first Libyan parliament was established and the first education ordinance thrown out. The *Zawiyas* and Sanusi property was taken over, Jaghbaub University was shut down and its valuable library set on fire. The whole school system was completely subordinated to an Italian syllabus, Italian teachers and the Italian language ... Libyan children were practically excluded from admission to secondary schools and forbidden to pursue studies abroad. It was all ugly, deliberate and brutish Fascism, except that there was some vitalising survival of Sanusi influence in a few ancient Islamic institutes and of Islamic influence in the ancient El Azhar University in Egypt to which Libyans resorted (Farley, 1978: 80).

Table 3.1 Development of total number of pupils in official schools during the first decade of Italian occupation (1911-1922).

Year	Elementary Arabic Schools	Italian Elementary Schools	Secondary Arabic/Italian	Jewish	Technical Arabic Italian/Jewish	Total
1911-12	99	373	54		119	645
1912-13	313	1908	99		107	2427
1913-14	1031	1721	134		115	3001
1914-15	725	1947	226		124	3022
1915-16	287	2137	201		159	2784
1916-17	422	2231	215		183	3051
1917-18	506	2076	226		186	2994
1918-19	779	2066	289		179	3313
1919-20	558	2268	285		197	3308
1920-21	571	2319	342		215	3447
1921-22	611	1858	342		243	3051

Source: Ministry of Education, The Development of Education in Libya from the Ottoman Empire to the Present Time Tripoli, 1974; 14-16 (in Arabic).

The long period of military conquest made the Italians more interested in territorial occupation of the country than in providing for the welfare of the indigenous people. This was especially true in the first decade of their occupation and before 24 July, 1923, the date on which the occupation of Libya by Italy was finally and legally recognised, thus ending 400 years of Turkish sovereignty in North Africa. The completeness of this conquest can be illustrated by the fact that: 'in 1921 only four Arab primary schools were in existence in Tripolitania, with a total of 611 pupils' (Europa Publications, 1972). This statement may be compared with the brief statistical statement given by the representative of the Italian Government in his memorandum reporting on the number of Moslem schools and students for the school year 1921-1922 in Libyan territories under Italian administration. Thus:

During the school year 1921-1922, the following Moslem schools were in operation in Libya in the territories under Italian administration:

Tripolitania - (a) Elementary schools: (1) Tripoli: two schools; (2) Suk El Giuma, one school; (3) Taguira, one school; (4) Homs, one school; (5) Zuara, one school.

(b) Secondary schools: (1) Benghazi: Idadia;

(c) Subsidised Koranic schools: (1) Benghazi, three 'kuttabs', including the Berka Kuttab; (2) Soluk, one kuttab; (3) Cehmines, one kuttab; (4) El Mergu, one kuttab; (5) Tomelta, one kuttab; (6) Cirene, one kuttab; (7) Appolonia, one kuttab; (8) Derna, one kuttab; (9) Tobruk, one kuttab; (10) Adid Camp (El Merga Zone), one Mobile Koranic school.

(d) Trade Schools: (1) Benghazi; arts and crafts school with two courses - one a preparatory course and another for artisans; (2) Benghazi: School of Domestic Science and General Education for Girls; (3) Derna: School of Domestic Science and General Education for Girls.

The attendance at the above mentioned schools during the school year 1921-22 was 4,040 children (Tripolitania 2,193; Cyvennica 1,847). To this number must be added about a hundred Moslem pupils attending the Italian-type schools (Tripolitania, fifty-nine; Cyrenaica thirty-three) into: (2) secondary and elementary (80) schools (The United Nations, 1950: 90).

The report continues with an analysis of two other types of schools: the Jewish and the Italian schools during the first ten years of the Italian occupation in Libya. The Libyans were clearly deprived of education beyond elementary level unless they obtained Italian citizenship. But Libyans were prejudiced against the Italians, especially at the beginning of the occupation, and were consequently opposed to sending their children to Italian schools, fearing that they might lose their Islamic faith and traditions (Hajjaji, 1967: 82-83). Nyrop (1973) described other educational developments under Italian rule in the following terms:

Italian was the teaching language in all schools, and Italian cultural and social subjects were taught, Arabic was offered as a language subject only. Traditional religious education was available in the Koranic school and was often the preferred choice of traditionalist families. The number of these increased toward the late 1930's but the Sanusi Zawiya were closed down by the Italians (Nyrop, 1973: 115-116).

After 1923, the Italian occupation entered a new era and the rules began to give more attention to educational facilities for the Libyan people. During the second stage of Italian rule, many progressive educational laws were enacted with a view to stimulating Italianisation. Since native youths who desired more than an elementary education had to attend metropolitan-type middle schools, this movement aided cultural colonisation (De Marco, 1943: 13-14).

Between 1924 and 1938, the Arab school population more than quadrupled, from 3,000 to 13,000, as mass suppression of independence of thought was made easier through these larger numbers (Farley, 1978: 80). In all schools, two types of education emerged, an Italian and an Arab type. Thus Arab children in these schools were often forced to study all the subjects of the curriculum in Italian (Ministry of Education, 1966a: 8).

Teacher Education and Training During the Italian Occupation

Teacher provision during this period was still one of the main problems in terms of quantity and quality. An attempt to provide pre-service and in-service training was made. According to De Marco:

One of the main educational problems confronted by the Italian Government in its colonies was the problem of securing adequate

and competent personnel for its native schools (De Marco, 1943: 60).

In Libya, from the very beginning of occupation in 1911-12, there occurred much experimentation in an attempt to solve the problem of teaching personnel. Teachers for the religious primary and upper institutions were trained in the same way as during the period of Turkish occupation. El Shabani (1962) has described the development of teacher education during the Italian occupation as follows:

For the Italian-Arab schools, there were two types of teachers - Italian teachers and Arab teachers. The Italian teachers, whose responsibility it was to teach Italian and geography of Italy, and modern subjects in general were usually trained in Italy or in Libya. The Arab teachers, whose responsibility it was to teach the Arabic curriculum in the second half of the school day, were recruited mostly from the graduates of religious institutions. They possessed some skills in speaking and writing Italian and had some elementary knowledge and skills in Arithmetic and Libyan geography, in addition to their language and religious education. Some of these teachers had been trained in Turkish normal schools in Libya. Still another source of Arab teachers this period was the graduates of the Italian-Arab schools who studied Arabic and religion in some of the available religious institutes after their graduation. This incidental preparation of Arab teachers continued to be a common practice throughout the period of the Italian rule (El Shabani, 1962: 42).

Remarkable progress towards modern teaching methods and teacher training took place in the last decade of Italian rule. This progress came as a result of many factors. Among them were the following:

- Expansion in schools and student enrolment;
- The desire of the Italian authorities to improve modern educational facilities for the Arabs and this improvement could be achieved only through improvement of Arab teacher preparation;
- The need felt for qualified Arab teachers to meet the expansion of the Italian-Arab schools.

Another description of teacher education during that time has been provided by De Marco:

For many years after 1914 no effective policy was followed with

reference to recruiting or training natives for service in Government schools for natives. The educational legislation of 1914 and 1915 which contained detailed instructions for education in Libya made only minor reference to native teachers, but did sanction the establishment of a school of Moslem culture, one purpose of which was to be the training of native teachers In Tripolitania from 1922-28, it was decided to give temporary appointments for teaching to natives adjudged cultured and capable. In Cyrenaica the Educational Ordinance of 1927 sanctioned middle schools whose objectives were (a) the training of kuttab teachers; (b) the preparation of merchants, accountants, and native functionaries The Royal Decree of 13 May, 1935 instituted and provided the detailed plan for establishing the higher Islamic school in Tripoli (al madrasah al-islamiyyah al-ulya) for the study of Islamic juridical and religious doctrines and of disciplines necessary to the preparation of teachers for the elementary schools for Libyan citizens.

Of course, this school was a multi-purpose institution but since one of its basic purposes was to train Moslem teachers for Moslem elementary schools, it can be considered as a teacher-training school (De Marco 1943: 65-66).

As provided by decree, teacher education was to be composed of a three-year preparatory course. In order to obtain a teaching licence, it was not necessary to go beyond the four-year middle course. The programme of studies was generally for the first five years and commenced specialised training for teachers only in the last two years of the middle course. The preparatory course offered instruction in: religion; Arabic language; logic and morals; Italian language; history and geography; mathematics; science and hygiene. The last two years of the four-year middle course, was to be divided into two sessions, one for preparation of teachers for the elementary schools for Moslems, and the other for the native functionaries. The last two years of the session were specifically devoted to the preparation of teachers, with pedagogical and didactic principles, Moslem law and juridical procedure to the fore.

The Annual Report of the United Nations Commission in Libya (1950) described the education of teachers during the Italian occupation as follows:

The last two years of the secondary course (article 5 of Decree no.165) were subdivided into two sections, the first for the training of teachers at Moslem elementary schools and the second for the training of Libyans for the public service. The subjects taught were as follows:

Religion (reading of the Koran-Taqmid; tawhid dogmatics; the Life of the Prophet; external religious obligations, ebadat); Arabic (grammar, composition, rhetoric, ma ani, bayain, badi, versification - elawid wal-quawaff, writing); Italian; History and Geography; Arithmetic; geometry and book-keeping; elementary science and hygiene.

The curriculum of the teachers' training section in addition included the elements of pedagogics.

The 'Principessa Maria Pia' school for Moslem nurses, founded in 1936, provided two courses: a preparatory course (up to the age of 14 years) and a vocational course attended by pupils who had reached the age of 14 years (United Nations Commission in Libya, 1950: 96-97).

During the Italian occupation in the year 1934-35, there were about 90 native teachers and 106 provisional teachers of Italian nationality in Tripoli serving in the Government schools for Moslems. In Cyrenaica there were 45 natives and 35 Italian teachers in the Government native schools. In fact the Italian administration made remarkable progress toward better teacher preparation:

This progress was achieved through the medium of in-service education courses, supervision and inspection, and finally the establishment of Islamic Higher School in Tripoli, which among its main purposes, was to prepare elementary school teachers for the Italo-Arab schools (El Shabani, 1962: 45).

The changes made in the new organisation were based on the promise of a stable school population, with a view to the establishment of schools of various kinds, and provision for the engagement of Moslem-Arab teachers who were, in all cases, to be selected from among persons holding an elementary teaching diploma and were required to pass an aptitude test (United Nations Commission in Libya, 1950: 95-96).

During the period of Italian rule in Libya many changes have been evident in the education system. Despite initially using education as a method of imposing the language, culture and political ideology of the Italians, progress was made within the educational system as laws were passed with a view to increasing the number of Libyan people receiving formal education. This period saw a massive increase in school population, yet there still remained the problem of securing adequate and competent personnel for the native schools. Attempts were made to provide pre-

service and in-service training to improve teacher preparation, and progress towards modern teaching methods and teacher training took place in the last decade of Italian rule. This was achieved predominantly through in-service courses in an attempt to address the problem of securing the quality and quantity of staff needed to deal with the growth of school population.

Although attempts to provide service and in-service training were made to meet the changing needs of that period, teacher education was still in need of adequate INSET programmes to meet the needs of a growing society.

Libyan Education under the British and French Military Administration (1943-1951)

For the duration of the fighting in North Africa in World War II, almost all the schools in Libya were closed. They began re-opening after the defeat of the German and Italian Armies in that region in 1943. Libya then came under British-French provisional administration and efforts were made to expand education facilities in spite of the shortage of financial and human resources at that time, especially the dearth of teachers. The modern development of education in the country dates from this period.

As previously mentioned, education during the Turkish and Italian occupations lost touch with the life of the mass of Libyan people and their aspirations. An official Libyan report described the subsequent development of Libyan education during this period as follows:

After the defeat of Italy in the Second World War, education became a battle-ground on which Great Britain and France fought each other to establish its own supremacy in the provinces they occupied. Great Britain coveted eagerly to control Cyrenaica and Tripolitania, separating them, and France fought to control the province of Fazzan. This struggle is clearly shown in the field of education. The British Administration attempted at first to enforce the Egyptian system used in Palestine in Tripolitania. On the other hand, France enforced the Tunisian system of education in Fazzan. This separatist policy was reflected in the school curricula, syllabi and the subjects taught in schools (Ministry of Education, 1974: 18).

In the northern region of Libya (Cyrenaica and Tripolitania), the British made it clear from the beginning that their administration was a temporary wartime measure, that

they were carrying out their obligations under International Law, and that they were maintaining law and order in the true fashion of British Colonial rule (Khalidi, 1956: 16-17). Immediately after the British occupied Cyrenaica and Tripolitania, from 1943 to 1951, the curriculum became unstable. Every year there were changes in methods and subject matter. In Tripolitania, elementary education covered five school years, then, in 1948, this was extended to six years. Students attended secondary school for five years in order to obtain a secondary school certificate which would permit them to attend university. At that time most of these students went to Egyptian universities. In 1947, the first secondary schools were established in Tripolitania, one in Tripoli and the other in El-Zawiya. In Cyrenaica, by contrast, the elementary school offered two years of pre-primary education and four years of primary education, while the secondary school period was of five years duration. The first secondary schools in Cyrenaica were established in Benghazi and Derna in 1947-48 (Hajjaji, 1967: 83-84). By contrast again, in the southern region of Libya (Fazzas), nothing was done about education by the French administration, and all that exists now has been achieved by the efforts of the post-Independence governments of Libya.

Until 1950 there were no females at the secondary educational levels and no female teachers in primary schools. The first secondary school for girls was established in 1950-51 with 15 girls. The enrolment increased in 1951-52 to 23 (Ministry of Education, 1974: 18). Even the number of female students at primary level improved - a very significant development in the light of the traditional position of women's education up to that point in Libya and the encouragement of this non-participant tradition by those who ruled Libya previously (Steel-Greig, 1948: 37). In Tripolitania, the number of girls at primary level increased from 314 to 2,923 between 1943-44 and 1950-51 and in Cyrenaica from 30 to 70 during that period.

Teacher-Education and Training During the British and French Administration

During this period teacher training was developed and INSET short courses regarding school management and educational psychology were offered for candidates both within Libya and abroad. Steel-Greig described the development of teacher education in this period as follows:

The problem of education in Libya, as elsewhere in the Middle

East, is basically a problem of Arab teachers. During 1944, the training of Arab teachers commenced. At the first course held, 76 candidates were enrolled and 77 in the second, but in 1945 only 45 candidates presented themselves ... During the summer of 1945 a party of 16 teachers was sent to Egypt for a short course in school management and educational psychology. The results on the whole were good During the summer of 1946, courses were held and in September an examination was conducted open to both teachers and outsiders (Steel-Greig 1948: 37-38).

In addition to the short courses arranged for some INSET courses, the Ministry of Education of Tripolitania established a training secondary school at Tripoli in 1948, then, in 1950, it established a teacher-training centre in Sidi Mesri, also in Tripoli. The status and the practices of this centre were described by Professor Le Tourneau as follows:

At this centre, there are 168 trainees ... The teaching staff consists of a Palestinian director and 15 teachers, 10 of them Palestinian and 5 Libyans ... The students are divided into three years. First year: 84 students divided into three sections; second year 58 students divided into two sections; third year 29 students, who spent one year in the training section of the secondary school before the establishment of the teachers' training centre. All these trainees have had only a primary education, concluding with the school-leaving examination, by a board composed of teachers from the centre and members of the Ministry of Education. From this year onwards, they must undertake in writing to serve at least three years in public education.

In the first year, their training is mainly a general one; in the second and third years, theoretical and practical pedagogical training takes a more important place. For the time being, practical work in physics, in chemistry and biology is very restricted owing to the lack of laboratory equipment; physical training occupies a small place and agricultural teaching can only be theoretical since the centre possesses neither a suitable piece of land nor the necessary implement (Le Tourneau, 1952: 22).

As there was no school annexed to the centre, the trainees had to go out to various schools in Tripoli to gain practical experience, which means that a great deal of time was wasted. Furthermore, the library was poor, being particularly short of books in Arabic.

In order to improve the standard of teaching in the girls' schools, which was much lower than that at the boys' schools because of the more serious shortage of women

teachers, the Ministry of Education established a similar teacher-training centre for girls in Tripoli in October 1950. Initially for two years of study only, a third year was introduced from October 1952. There were 26 trainees, of whom 16 were boarders.

The subjects studied and the number of weekly classes in each subject in three years of the Men and Women Teacher Training Centre at Tripoli are shown in Tables 3.2 and 3.3.

The purpose of these two teacher-training schools in Tripoli was to produce teachers for elementary schools. However, they in fact produced no teachers during this period; Le Tourneau (1952) described the development in teacher education in Cyrenaica as follows:

The Ministry of Education of Cyrenaica is initiating some type of pre-service and in service training to improve the quality of the Libyan elementary teachers in two ways:

- by establishing a training section at the Benghazi secondary school; in the morning the pupils attend the general education classes held in the school during the first year, and the afternoon they receive training in teaching. This course was attended by 35 pupils during the year 1950-51.
- by organising at Mersa Susa (Appolonia) since 1950, a holiday training course for teachers already occupying posts; the main subjects taken are history and geography, physical training, handicrafts, Arabic and English.

The Ministry further proposes to set up in the near future a regular teachers' training centre at Benghazi, where 50 young people will be able to follow a year's course of intensive training.....

During the year 1950-51, the Ministry of Education organised a girls' secondary class at Benghazi, which is attended in the afternoons by the majority of the Libyan women teachers holding posts in the town (ibid: 28-29).

Table 3.2 Weekly timetable of the teacher training centre 1952

Subjects	No. of lessons per week (each 45 minutes)		
	First Year	Second Year	Third Year
Arabic	6	6	6
Religion	2	2	2
English	5	5	5
Mathematics	5	5	5
Physics and Chemistry	2	2	2
Practical Work	1	1	1
Biology	2	2	2
Practical Work in Biology	1	1	1
History	3	3	3
Geography	2	2	2
Civics	2	-	-
Agriculture	2	1	1
Practical Work in Agriculture	1	1	1
Physical Education	2	1	1
Drawing	1	1	1
Educational Theory (Child Psychology)	2	6	6
Educational Practice	-	4	4
TOTAL	39	43	43

Source: Adapted from Le Tourneau, Libyan Education and its Development, Report of the Mission to Libya, 1952: 58.

Table 3.3 Time table of the women's teacher-training centre in 1951

Subjects	No. of lessons per week (each 45 minutes)	
	First Year	Second Year
Arabic	8	8
English	8	7
Religion	2	2
Mathematics	6	5
History	2	2
Geography	2	1
Elementary Sciences	2	2
Hygiene	1	1
Infant Welfare	-	1
Domestic Science	-	4
Needlework	2	-
Drawing	2	1
Psychology	-	1
Physical Education and Singing	1	1
TOTAL	36	36

Source: Adapted from Le Tourneau, 1952: 59.

For Libyan secondary school teachers, as in Tripolitania, no training was provided by the Cyrenaican Government in Libya itself, though some scholarships were provided for study abroad. The French administration did not train any teachers, they only sent a few young Fezzenese to Algeria to receive additional general instruction before learning to teach. Teacher-training and INSET continued to be under-developed. This weakness implies that the authorities were to blame or that they did not do their best to promote and improve the educational opportunities for the Libyan children and youth:

The British Government, which administrated most of Libya on behalf of the United Nations after World War II, expanded educational services for Libyans; preparatory, secondary, and technical schools were opened, but because of a lack of funds and teachers, these facilities were available only in some coastal areas (Nyrop, 1973: 116).

Libyan Education since Independence 1951 to 1969

Education in Libya passed through several stages after Independence, each being distinguished by certain political and cultural factors. The attainment of Libyan Independence in December 1951 is a landmark in Libyan educational development, after which the Libyan people began to organise for themselves a national Arab system of education. The newly-born state had to meet the challenge of inherited patterns in the field of education as well as in other areas of life. While meeting this challenge, education passed through periods; each of which has left its stamp. Official Libyan documents described these developments as follows:

a) The first was the *period of legislature*, organisation and extension, enabling the Libyan children to enjoy their rights given to them by the Libyan Constitution. The main problems of this period were the following:

- the declaration of laws derived from the different aspects of national life and the demands put forward by Libyan people;
- the organisation of education within an integrated national framework;
- to give satisfaction to the educational needs increasingly felt by the Libyan people;
- to make available the number of teachers needed to staff the newly-opened schools;
- to provide school buildings adequate enough for the increasing number of enrolments;
- to finance educational programmes.

b) The second period was the *period of educational planning* for economic and social development. After education had made great progress, it found itself confronting new problems imposed by many factors ... The main problems of education in this period were the following:

- how to provide manpower adequately trained to carry out development schemes in

the different fields based on constructive planning;

- how to direct the rapid social change;
- how to bring balance between the different fields of educational facilities and the improvement of the quality of education while carrying on with educational extension (Ministry of Education, 1968a: 9-10).

Table 3.4 illustrates the growth of school and student numbers during the first decade of Independence.

c) An Education Ordinance of 1952 was issued in which the constitutional rights of the Libyan people were expressed in terms of regulations and educational by-laws. These documents set the aims and the policy of education. The most significant of these were the following:

1) Democracy in Education: Within Articles 28, 29 and 30 of the Libyan Constitution is the following:

Education is the right of every Libyan. The State shall ensure the diffusion of education by means of the establishment of public schools and of private schools which it may permit to be established under its supervisions. Also: teaching shall be unrestricted so long as it does not constitute a breach of public order or is not contrary to morality. Also: elementary education shall be compulsory for Libyan children of both sexes. Primary and elementary education in the public schools shall be free ... In executing the provision of the Articles 28, 29, 30 of the Constitution of United Libyan Kingdom, every province shall establish within a reasonable period public schools commensurate with its resources and finance these schools to satisfy the need of Libyans in the provinces for the compulsory primary, elementary and secondary education. No Libyan pupil shall be deprived of education at any level save within the bounds of Law (Ministry of Education, 1968a: 11).

Table 3.4 Number of schools and students from 1950-51 to 1960-61

Year	Kindergarten and Elementary		Preparatory and Secondary		Professional		TOTAL	
	Schools	Students	Schools	Students	Schools	Students	Schools	Students
1950-51	194	32,115	4	300	10	326	208	32,741
1951-52	202	36,949	4	402	10	568	216	37,919
1952-53	228	42,500	5	558	13	776	246	43,834
1953-54	266	48,278	7	712	13	1,093	286	50,085
1954-55	319	57,001	11	957	13	1,339	344	59,297
1955-56	382	65,831	18	3,755	13	1,659	413	71,245
1956-57	425	78,724	28	4,293	13	2,076	466	85,093
1957-58	446	91,632	43	5,682	16	2,175	505	99,489
1958-59	487	99,388	64	6,639	19	2,389	567	108,416
1959-60	559	113,694	75	9,186	20	2,737	654	125,615
1960-61	632	130,077	95	12,320	24	4,328	751	146,725

Source: Ministry of National Economy, Census and Statistical Department, Statistical Abstract of Libya 1958-1962 Tripoli, 1963: 145-146

2) The Arab Directive of Education: The Libyan Constitution assessed that Libya is an Arab Independent Sovereign State with Islam as its religion and Arabic as its language. This meant that Libya should adopt and follow the educational pattern of the 'family' of Arab Islamic countries. The educational system of Independent Libya was set to approximate to the Egyptian education system in particular as well as to the systems of the rest of the member states of the Arab league:

The school programmes in Libya have become similar to those in other Arab states and the school leaving certificate given at the end of each level was made equivalent to those given in other Arab Countries (Ministry of Education, 1968a: 11).

The elements of the constitution may be considered the foundation of the system of modern education in Libya (Deeb and Deeb, 1982: 28).

The Libyan Government was also confronted with the problem of financing education and making available all physical and technical possibilities most effectively. For this purpose, it collaborated with all bodies and organisations which were ready to help, Libyan citizens volunteered by giving buildings to serve as schools and tracts of land for the erection of school buildings. The Technical Assistance Board of the United Nations and the Specialised Agencies of the United Nations, notably UNESCO, collaborated with the Libyan Government on a very large scale. Regulations prescribed that elementary education should be compulsory for all children between the age of six and twelve years. The legal position, though clear, was not enforced. The reasons were described by a UNESCO Mission in 1964 thus:

- there has been a shortage of both teachers and classrooms;
- the difficulty of making provision for nomadic groups;
- children are sometimes kept at home for economic reasons;
- the Government's opinion that in order to maintain as high a standard as possible, only a proportion of the pupils at each level should be promoted each year. In addition, there is a graduation examination at the end of the sixth grade.

The result of these factors is that, although most of the people appear to commence their primary education in Grade 1, the drop-out is so considerable that less than 25% of these pupils will graduate from Grade 6. The mission cannot agree that the promotion system adopted by the Libyan Government is

educationally, socially or economically necessary or desirable, particularly at the elementary level. The system is designed to suit the needs of the academic pupils and those with average or less ability can neither work at the same pace nor measure up in the written examinations and test, they tend to drop out The evidence of research indicates clearly that lower ability children ultimately reach higher levels of attainment if they are kept in classes with their fellow pupils of approximately the same age and hence it is the modern educational practice to promote pupils from class to class, especially up to the ninth grade, without examinations and without insisting upon a fixed standard of attainment (UNESCO, 1964: 23-24).

From the figures available in 1950-51, the number of students in all levels of schools was 32,741, of whom only 3,664, or about 11%, were females. In 1960-61, the number rose to 146,725 of whom 29,543, or about 20%, were females. During the same period, the number of secondary school students rose from 300 to 12,320 (including the preparatory stage). The number of schools rose in the same decade from 208 to 751. Out of this number, 689 were Government and 62 private. The number of teachers of all levels rose from 1,024 in 1950-51 to 5,565 in 1960-61.

After Independence, schooling fell into the three categories: theoretical education; vocational and technical education; religious education.

Theoretical education

There were five stages within this category comprising: kindergarten - two years; primary - six years; preparatory - three years; secondary - three years, and higher education - University - four years.

i) Kindergarten: This stage is offered for children four to six years of age as preparation for primary school, but is not compulsory. Its availability is limited, and this is especially so within rural communities. This situation is highlighted in The Report of the Mission to Libya in 1952 which stated:

There are only a very few kindergartens. Many Libyans regret this, and I sympathise with them. But in view of the extent of educational requirements and the scarcity of present resources, I think it will be a long time before kindergartens can be developed except by way of experiment, and with a view to evolving methods suited to Libya for the time when the provision of kindergartens can become a general institution (Le Tourneau, 1952: 35).

ii) Primary Education

The formers of the Libyan Constitution would not let their vision be dimmed by the fact that not one Libyan in ten had ever attended any school. Universal, free, compulsory education at the primary level for all the people of Libya was set out as a national goal in the Constitution, and articles 28, 29 and 30 called for the expansion of educational facilities. Libyan authorities pointed out that they had progressed two-thirds of the way towards the constitutional aim of instruction for every child. They believed that the quantitative emphasis should give way to greater concern for quality. The education of the young became, therefore, a primary concern of the society, and should be founded on sound principles, helping students to cope adequately with the problems of meeting their basic needs and necessities. In theory, primary education was compulsory in areas where adequate facilities were available, but in practice, this was more of a hope than reality because social and economic conditions, together, with inadequate planning, particularly in the rural areas, made the ruling ineffective (Ministry of Education and National Guidance, 1970). The course of study was uniform to all primary schools throughout Libya. Thus, a child moving from one district to another, from urban or rural or vice-versa, was not handicapped by variation in the basic curriculum.

The aims of primary education in Libya are inseparable from the general aim of education in the whole country. An important Ordinance was issued on 28 September, 1965, defining the main trends and aims of educational services. These trends and aims were as follows:

- a) more attention to be paid to the quality of education at all levels by extending the responsibilities of the Ministry to effect education in all its perspective;
- b) Linking the quantity with the quality of education by an overall planning and by deciding what means would be best to spread education throughout the country;
- c) Deciding the importance of appraisal of educational operations on the basis of statistics, study and research;
- d) Directing the educational operations by means of developing the school curricula, the choice of textbooks and modern educational aids, with the view of bringing up a well-built generation, morally, mentally as well as physically;
- e) Supporting all levels of education to ensure equal opportunities to all on the largest

possible scale and raising the standard of education at all levels;

- f) Ensuring all possible opportunities to all citizens according to their aptitude in the fields of education whilst considering the requirements of each environment;
- g) Developing and confirming the relation between educational society by linking the school and the social environment by school communities, parents associations and other bodies;
- h) Taking special care in training teachers for all levels of education, defining their levels and working for their reaching these levels and above (Ministry of Education, 1966b: 3-4).

Enrolment in the primary schools in Libya more than doubled from 1951 to 1960. It is clear from the previous data, formal education had progressed rapidly before that year. The number of primary schools increased from 201 in 1951-52, the first school year after Independence, to 495 in 1959-60. Correspondingly, the number of primary schools' enrolments grew from 36,887 to 139,569; the number of teachers in these schools from 1,156 to 4,157. However, this rapid expansion seemed to the International Bank Mission to be undertaken gradually which stated as follows:

It will inevitably take time to reach the goal of universal primary education, particularly where social customs still tends to keep girls away from school. The expansion of primary schools has therefore to be undertaken gradually, and attention concentrated in the meantime on measures for improving the quality of the facilities provided. More emphasis must be given in the curriculum to practical training for everyday life. The number of adequately trained teachers must be increased. More and better school equipment, textbooks and teachings aids should be provided. Thus, the primary school teacher should be carefully selected and well prepared for his work. [IBRD] (The International Bank of Reconstruction and Development, 1960: 256-257).

The curriculum of the primary school consisted of Arabic reading and writing, arithmetic, drawing, religion and sports during the first three years. During the fourth, fifth and sixth years these were continued, with the addition of history, geography and civics (Ministry of Education, 1968b: 6-20). English was formerly taught in the upper elementary grades.

Primary schools in rural areas followed exactly the same curriculum as schools in urban areas; this situation, it was argued, should be changed. The primary school

could do much to stimulate an interest in agriculture and to encourage a proper appreciation of the advantages of rural life, and this was particularly important in Libya because of the absence of the tradition of settled agriculture and the consequent shortage of elementary skills which in other countries could be taken for granted (IBRD, 1960: 257).

Although considerable progress was made in building new schools, there was still much to be desired in many of the facilities. For example, a team of investigators after studying what were supposed to be the best ten schools in Tripoli, found:

- overcrowded classrooms;
- limited library facilities;
- inadequate and poor furnishings in classrooms;
- limited recreation areas, lack of play equipment;
- almost complete lack of maintenance;
- environmental health hazards (lavatories, feeding rooms, electrical fixtures);
- non-existence of fire prevention or suppression equipment;
- poor lighting in classrooms;
- non-existence of locker facilities, either for students or for staff;
- lack of ever-limited administrative offices.

(Ministry of Planning and Development, c1970).

Equipment was sadly lacking in many post-Independence Libyan schools. Classes in the cities had become overcrowded and unmanageable. School textbooks presented a special problem for Libya because there were no Libyan authors capable of writing the books. Therefore Libya had to depend entirely on other Arab authors. Unfortunately, these books tended to ignore the pupils' local interest, and failed to reflect sufficiently the country's particular cultural background (UNESCO, 1952: 44).

This remained a valid criticism up to the mid-1980's. Both from the quantitative and qualitative points of view, the problem of textbooks is a serious one, since Libya has adopted a policy of universal, free and compulsory primary education. The normal

procedure is that the Ministry of Education prescribes one textbook for each subject to be used by each grade, and this is applicable to all public primary schools all over the country. Teachers are required to adhere to the textbooks very closely.

iii) Preparatory Education (Junior High School Level)

Under the twelve year school system, the six years at primary school are followed by three years at preparatory school. Enrolment in preparatory school requires that the student be a graduate from elementary school and not to be more than sixteen years of age. The preparatory school period was originally for two years, but in 1957-58, it was extended to three years. In 1964 UNESCO criticised this kind of education thus:

At the present time, these schools have a uniform academic curriculum which all pupils are expected to follow. If increasing numbers of students are to be accepted, it is obvious that a greater diversity of courses must be provided. Young people vary greatly in their abilities and in their capacities to learn, but all of them are capable of development as valuable members of society. A narrow academic education, far from helping all youth to mature properly, often causes social maladjustment, towards the desire to learn and create attitudes of failure and resignation detrimental to youth and to society as a whole (UNESCO, 1964: 5).

The curriculum of the preparatory cycle was then largely a continuation of the primary school (Nyrop, 1973: 121), even to the extent of adherence to a single textbook. This is true in most of the Arab education systems, it sticks to the policy of using uniform textbooks which may even be the only source, for both teacher and pupils (Akrawi and El Kaussy, 1971: 187-189). Despite the fact that a strong body of educational opinion has increasingly stressed the value of activity and freedom, the system prevalent in Libya has tended to become more and more book-centred. Individual differences are an important aspect in a child's development, and these should be served by the provision of a variety of materials, including textbooks. Attention should be given to enriching the programme of the preparatory schools. The Government's policy on Independence was to provide chances for preparatory schooling for all Libyans who finished their primary education (Ministry of Education, 1974: 31). But because of the financial difficulties suffered during the early years of Independence, it was impossible to attain this goal. Table 3.5 shows the number of schools, pupils 'male and female' and number of teachers in the preparatory schools from 1955-56 to 1968-69.

Table 3.5 Number of schools, pupils and teachers in the preparatory school from 1955-56 to 1968-69

Year	No. of Schools	No. of Pupils		Total	No. of Teachers
		Male	Female		
1955-56	10	2560	25	2585	152
1956-57	19	3056	78	3134	204
1957-58	32	4084	127	4211	236
1958-59	48	4876	182	5058	288
1959-60	61	7150	305	7455	386
1960-61	75	9011	472	9483	479
1961-62	82	10541	675	11216	639
1962-63	100	13880	811	14691	917
1963-64	104	13393	893	14286	976
1964-65	107	16208	1503	17711	1084
1965-66	115	17108	1612	18720	1122
1966-67	125	20093	1945	22038	1305
1967-68	140	24277	2137	26414	1554
1968-69	144	25637	3544	29181	2076

Source: Ministry of Education, *The Development of Education in Libya from the Ottoman Empire to the Present Time*, Tripoli, 1974: 33.

iv) Secondary Education (Senior Secondary School)

Enrolment in the secondary school in Libya requires that the student be a graduate from preparatory school. Over the period in question, secondary school enrolment was similar to the preparatory school figures; that is to say, very few students enter and very few graduate as shown in Table 3.6.

The three-year secondary school had a common curriculum for all students in the first year of study: Arabic, English, French, Religion, Chemistry, Physics, History, Geography, Mathematics, Libyan Society, Drawing and Sports. In the second year, the students elected to follow either a literary or a scientific curriculum during the remainder of their secondary studies. In the literary section, the subjects for both the second and third years were religion, Arabic, English, French, History, Geography, Philosophy, Sociology, Physical Education, and extra classes in the field of specialisation. The scientific programme offered religion, Arabic, English, French, Mathematics, Chemistry, Physics, Biology, Physical Education, and extra classes in the field of specialisation. Promotion from the final grade was by written examinations at the national level. All secondary graduates were then qualified for admission to the university. A student who failed in three subjects had to repeat the whole year's work in all subjects. Failure in one or two subjects, gained permission to study during the vacation and sit for supplementary examinations in September.

Like the earlier sectors, secondary curricula in Libya were unrelated to the everyday

problems and needs of the students and therefore did not promote the development of attitudes which were needed for achievement of national and social goals. The curriculum bookish knowledge, rote memory, and cultivation of discrete information, and was dominated by a rigid examination system (Ministry of Education, 1971). There was total centralisation and State control (El Kaussy, 1967: 208). Table 3.6 shows the quantitative development of secondary schooling in Libya from 1952 to 1969.

Table 3.6 Numbers of students (males and females) numbers of schools and teachers in secondary schools from 1952-53 to 1968-69

Year	No. of schools	No. of pupils			No. of Teachers
		Male	Female	Total	
1952-53	5	982	16	998	83
1953-54	7	1547	20	1567	111
1954-55	7	2376	29	2405	189
1955-56	8	1141	29	1170	130
1956-57	9	1139	20	1159	130
1957-58	11	1397	74	1471	124
1958-59	13	1536	45	1581	152
1959-60	14	1651	78	1729	171
1960-61	14	1821	125	1946	246
1961-62	14	2126	158	2284	232
1962-63	14	2508	200	2708	206
1963-64	15	2228	186	2414	340
1964-65	18	3513	368	3881	430
1965-66	18	3888	438	4326	367
1966-67	21	4312	496	4808	376
1967-68	23	5207	738	5995	461
1968-69	25	6237	944	7181	608

Source: Ministry of Education, The Development of Education in Libya from the Ottoman Empire to the Present Time, Tripoli, 1974: 36

v) Higher Education

Libyan general education attains its summit in the University of Libya. King Idris I contributed his Minar Palace in Benghazi to house the early university which was established in 1955, began operations in 1956 with the single college of arts, letters and education, and graduated its first class of thirty-one students in 1959 (Ministry of Education, 1972). In 1956 and 1957, Tripoli and Benghazi became the locations of new places of learning, the College of Science and the College of Commerce and Economics. A Law College was established in Benghazi in 1962 to be followed by a College of Agriculture in Tripoli in 1966. Two other Tripoli colleges, for Engineering and Education, were opened in 1967.

The idea of establishing a Libyan university took form in 1954 when the Government

felt the need for a college to prepare teachers in response to the severe shortage that existed at that time. This took the form of the Faculty of Arts and Education, the first college in the system (Bubtana, 1976: 107). Due to lack of both human and financial resources, and especially experience in higher education, a study to explore the more appropriate foreign pattern for the prospective college was commissioned. Two possible patterns were examined: the Egyptian system and the American model. The American pattern, 'The Nevada University Plan', was suggested by a team of professors from Nevada University who were sent to Libya. They proposed the establishment of a comprehensive multi-purpose two-year junior College, but Libyan authorities were dissatisfied with the proposals, (Abu-Hadeed, 1957: 41-42) being determined to establish a university rather than a higher institution (Ministry of Education, 1968b: 69).

As a result, the Libyan authorities turned to Egypt for educational assistance and advice. The outcome was a university administered by a president, appointed by a presidential decree upon the recommendation of the Minister of Education, and responsible for the administration of the University, and a University Council. Admission to the University of Libya is on the basis of the secondary school certificate or its equivalent. Secondary school graduates from the literary stream generally entered the Faculties of Arts, Education and Law, where those from the scientific stream were channelled into the Faculties of Economics and Commerce, Science, Engineering and Agriculture.

There have been some doubts as to the capacity of public funding and socio-economic need in respect of a wide ranging university Institution. For example, the International Bank Mission suggested that:

[t]he Ministry of Education reconsiders its present policy of granting free tuition, maintenance, books and special allowances to every university student. This is a wasteful use of public funds and one that cannot be justified by consideration either of economy or of equity. In our judgement, exemption from tuition fees should be the most that the university offer all its students indiscriminately (IBRD, 1960: 267).

Realising that the provision of material incentives was the only way to attract the few high school graduates at that time, educational authorities ignored the Mission's recommendations (Bubtana, 1976). Furthermore, in an effort to increase the number

of Libyan teachers and instructors, scholarships were offered by the Libyan University to study abroad. Most of the scholarships were in the U.S.A. and United Kingdom.

vi) Vocational and Technical Education

The vocational and technical education system was divided into two parts: the intermediate stage (into which the students were admitted after receiving the primary school certificate); and the senior stage (which could be entered after the student obtained the preparatory certificate). This system of education required three years attendance at college, which included the teachers' training institutions for men and women, commercial schools, technical schools, agricultural schools, and handicrafts' institutions. Special vocational courses for students at the upper secondary level included health officer training courses and health inspector training courses (UNESCO, 1976: 741). Vocational training was officially encouraged because of the critical need for technical personnel.

After the discovery of oil petroleum in 1959 the urgent need to develop technical and scientific education became increasingly apparent. The Libyan educational authorities could no longer minimise the importance of the technical side of instruction, given the need to meet the future requirements of the country for skilled personnel (Ministry of Education, 1966c). The difficulty of spreading technical and vocational education in Libya was not in building suitable schools, or attracting good applicants, but rather the recruitment of well-trained and qualified teachers who could free themselves from the tendency to be purely theoretical (Qubain, 1966: 29).

Table 3.7 shows the Development of Preparatory and Secondary Technical Education during the period in question.

Table 3.7 The development of preparatory and secondary technical education from 1958-59 to 1968-69

Year	Preparatory	Secondary	Total	No. of Teachers
1958-59	486	232	718	125
1959-60	629	227	856	136
1960-61	713	246	959	127
1961-62	816	339	1159	153
1962-63	1186	311	1497	180
1963-64	916	274	1190	173
1964-65	703	324	1027	148
1965-66	595	338	933	134
1966-67	660	404	1064	146
1967-68	506	403	909	175
1968-69	686	571	1259	196

Source: Ministry of Education, Educational Planning in the Libyan Arab Republic Tripoli, 1970: 46

vii) Religious Education

The Religious education system paralleled the stages of the general education ladder in respect of years of study, admission requirements, promotion, and examinations. The only difference was that its syllabi stressed religious instruction. Religious education retained an important position in Libya's post-Independence education system since the precepts of Islam are basic to the moral and social posture of the country. It had four levels: pre-primary, primary, secondary and higher. Post-Independence there was a movement towards reforming, reorganising and modernising religious education to become a more basic aspect of Libyan education supported by public funds (El Shabani, 1962: 77). During the Turkish and Italian periods of occupation, the majority of Libyans received their education in religious schools which were independently supported (El Shiekh, 1972: 107-110).

In 1965-66, there were 6,082 students at 120 Koranic schools (6 years of training); 1,127 students at 13 elementary, preparatory and secondary schools (each level requiring 3 years of training); 115 foreign students studying preaching and religious law, and 287 students at the Islamic University at Beida (Ministry of Education, 1966d). This university had three faculties: Moslem law, Arabic studies, Religious Principles.

Teacher Education and Training Since Libyan Independence 1951 to 1969

Although priority was given to the solution of education problems by the Government, which allocated a major portion of its income to this end, and had further earmarked substantial sums in its five-year development plan for promotion of education at all levels, it was possible for a UNESCO report to say in 1966 that:

Considerable progress has been made, but much remains to be done, particularly in the field of teacher-training (UNESCO, 1976: 743).

In fact, pre-service teacher-training had been crippled by the low standard of the entrants. For many years, primary school certificates had been accepted and this meant a four-year course to develop a trained teacher with a diploma. Viemeyer stated:

The training of students prior to entry to Teachers' Institutes is vital

in any education system. The standard of entry to a Teachers' Institute should be set high and should be increased gradually to include only those students who have been through to the end of secondary school and who hold the passing certificate for that area of the education system. At the moment, of course, this is still quite impossible because not enough young people are getting through to secondary education (Vietmeyer 1968a: 1).

The health of the whole educational system depends upon the soundness of teacher education which may serve either as a potent reinforcement of the status quo in schools or as an aggressive force for innovation, change and improvement. This change will include INSET courses to improve the teaching standards and overcome the problems incurred by unqualified teaching staff.

The contemporary system of teacher education in Libya is a result of a number of different programmes introduced over the years, and reflects the country's pragmatic attempts to counter a deficient provision on independence. As enrolment increased, teachers had to be found to staff the schools. Like other countries, especially 'emerging' states: 'Libya in its turn has been doing its very best to supply suitable trained personnel to various areas of its education system' (Ministry of Education, 1966a: 3).

Farley described the development of teacher-training, and refresher courses for teachers already employed (INSET) in Libya as follows:

An exploding demand for education meant in turn devising ways and means of increasing the supply of desperately needed trained teachers. In 1950, the Ministry of Education set up a teachers' training centre at Sidi Mesri, near Tripoli. The Government set up a teachers' training section in Benghazi secondary school and refresher courses for teachers already at work. Libya secured international assistance. It called upon University of Libya graduates to fill the teacher gap. The Government built men's and women's teacher training colleges and a higher teachers' training college to train teachers for secondary schools. Between 1950-51 and 1962-63, the number of students in teachers' training institutes increased from 89 to 1,919, in addition there were 376 special teachers in training. The total number of teachers at all levels, excluding that of the University, had jumped from 1,028 in 1950-51 to 6,317 in 1962-63. Yet the desperate demand for teachers remained a troublesome problem (Farley, 1978: 93).

In the first four years of operation of the new system, students were admitted by

examination after completion of the fifth grade in the primary school and were presented with teaching diplomas after completing a four-year course at the college (Ministry of Education, 1968b: 20-28). The standard of admission was raised in 1955-56, with the requirement that students must first have received the certificate for finishing the six primary grades. Table 3.8 shows the growth of this sector over c. 20 years from Independence.

Table 3.8 The development of the number of students and teaching staff in general and special teachers' training institutes from 1952-53 to 1973-74

Academic Year	No. of Pupils in General Teacher-Training Institutes			No. of Pupils in Special Teacher-Training Institutes			No. of Teachers
	Male	Female	Total	Male	Female	Total	
1952-53	291	89	380	-	-	-	36
1953-54	394	190	584	-	-	-	47
1954-55	641	199	840	30	-	30	66
1955-56	872	198	1070	55	-	55	84
1956-57	881	252	1133	198	-	198	94
1957-58	1013	287	1300	200	-	200	128
1958-59	1089	275	1364	312	-	312	129
1959-60	1268	297	1565	316	-	316	162
1960-61	1416	375	1791	362	-	362	172
1961-62	1376	430	1806	365	-	356	157
1962-63	1376	543	1919	376	-	376	229
1963-64	1149	763	1822	576	9	585	207
1964-65	724	692	1416	941	31	972	195
1965-66	957	1142	2099	1161	70	1231	270
1966-67	1508	1647	3155	1392	134	1526	380
1967-68	1551	2113	3664	1435	155	1590	486
1968-69	1134	1997	3131	1822	206	2028	466
1969-70	1013	1472	2485	2036	204	2240	556
1970-71	1058	1172	2830	2334	213	2547	463
1971-72	1532	1641	3173	2555	256	2811	518
1972-73	4378	3726	8104	2525	361	2886	989
1973-74	5656	7031	12687	2376	543	2919	1193

Source: Ministry of Education, *An Historical Study on the Development of Education in the Libyan Arab Republic from the Ottoman Period to the Present Time*, Tripoli, 1974: 39

The graduates of men's and women's teacher-training colleges were considered qualified to teach in the kindergartens and primary schools. Nonetheless, the International Bank Mission criticised teacher education for its low admission standards:

The number of teachers graduating from the existing colleges appear to be adequate to meet the needs of the primary schools, but standards of training leave much to be desired, six years of primary school is clearly not an adequate preparation for admission to teachers' training college, and however necessary it may have been initially to set the admission requirements so low, it is essential that they should be raised as rapidly as circumstances permit. Normally a prospective teacher should be expected to have had at least nine years in ordinary schooling before he enters a training college, and

this should be the objective for the existing colleges in Libya, to be achieved in stages. Instruction at the colleges would then, in effect, be on the secondary rather than on the preparatory level. programmes of rural teacher-training should be separated from those of urban teachers and be transferred to the agricultural schools, at El Aweila in Cyrenaica ... and candidates should be selected mainly those who are themselves from rural areas. Although the course of study in rural teachers' training would follow the general three-year curriculum for other primary school teachers, special emphasis should be given to agricultural and other rural subjects ... Finally, in order to maintain standards of teachers, a selected number of rural school inspectors should be appointed and given on-year of intensive training in an agricultural school (IBRD, 1960: 259).

According to the 1954 Regulation, five conditions were required for admission in the General Men and Women's Teacher Training Institutes, as follows:

- successful completion of an elementary school;
- the student's age should be, at enrolment, not less than fourteen years and not more than eighteen years;
- passing of a medical examination;
- passing a personality examination (through personal interview);
- agreeing, in writing, together with his father or his sponsor; to continue study at the institute until completion, and to serve at least six years in public education after gaining his diploma.

According to the Ministry of Education in 1966d, it was realised that quality was desired besides quantity, and it was trying to improve both:

But the quality of education was affected by many factors ... training of teachers, attitudes of students, school facilities, technical inspection, suitable books, school administration ... and it was more, therefore, much more difficult to influence (Ministry of Education, 1966b: 20).

It was realised that properly trained teachers, especially if there is an opportunity for them to increase their qualifications and to attain INSET courses, constitute a vital segment of the community. Although the long term aim of the Libyan Ministry of Education (according to Vietmeyer as early as 1968) was a secondary school certificate, as a minimum entry qualification for each trainee teacher (Vietmeyer,



1968b: 1), in reality most Libyan teachers were trained to a very low standard. However with a secondary certificate each trainee should have already a considerable background in the basic subjects, together with a knowledge of some of the cultural bases of education. More time could then be employed in dealing with professional development as opposed to subject acquisition. In a situation such as this where hundreds of teachers were required, no nation could be expected to develop an ideal solution, and Libya was certainly no exception (Zarrugh, 1973: 252). Nevertheless, there continued to be general dissatisfaction with the standards of teacher trainees, in Libya, with the work of the trained teachers and with the quality of educational attainment in general (Ministry of Education, 1966e). The curricula at the Teachers' Institute needs to be under constant moderation so as to relate it to the latest knowledge and methods in the world of education. In fact, the curriculum introduced in various teachers' training colleges in Libya, was neither adapted to the needs of the would-be teachers, nor to the needs of the country as a whole. It tended to be too academic and to neglect the problems of practical method and classroom organisation (El Shabani, 1962: 91-93). The subjects taught were themselves of little relevance to the future needs of the prospective teachers who, as is the case in most Libyan schools, tend to memorise facts rather than understand the real issues. On this problem, Vietmeyer (1969a) makes the following points:

The curriculum too tends to be old-fashioned and largely based on rote academic learning. There does not appear to be nearly enough thought and application of the principles of discovery and research. In a word, the approach is not modern. The whole education system, including the teacher colleges is crippled by a rigid examination system with subsequent rigidity of curriculum ... many subjects and areas essential to the development of individuals are just not possible under such a system (Vietmeyer, 1969a: 2).

In short, most curriculum contents adopted by teachers' training colleges in Libya were out of date, irrelevant to current and future problems and, above all, ignored the fact that we live in a time of rapid growth and change (Vietmeyer, 1969b: 8-10). Methods of teaching are essentially the same in kindergartens, primary and preparatory stages of Libyan schools. In the main, methods are based on the initiative and activity of the teacher in the classroom. Little emphasis is laid on student activity (ibid).

According to Zarrugh (1973), some 20 years after Libyan Independence, a

considerable number of teachers still knew no way of teaching but lecturing and memorising:

There are many teachers - among those who teach in the teachers' training colleges - whose teaching is nothing but chalk and talk, or even nothing but talk (Zarrugh, 1973: 287).

Vietmeyer takes the progressive line much further:

Teacher institutes should be the places where young people who have been students all their lives are given the opposite side of the picture and are taught the characteristics of the pupils they are to teach and are developed into thoughtful research students, who study their teaching life how best to help their students grow both as individuals and as scholars. The methods that teacher college lecturers use in trying to do this are most important, and the methodology that the students are taught to use in the classroom will have a tremendous impact on the lives of young Libyans (Vietmeyer, 1968c: 1).

He went further in arguing for formal education for the development of Libyans:

in 20 or 30 years' time, when it is their turn to be responsible for the nation's future, they will have sufficient flexibility of mind to rank among the foremost in the advancement of the world's science, mathematics and language attainments, thus will Libya become a leading, instead of a developing country (Vietmeyer, 1968b: 1).

Was Vietmeyer exaggerating the potential value of investment of teacher education? At the period during which he was writing, this was certainly not so, for there were those people who believed that any reform in education should begin and end with the teacher whose quality has a profound influence upon the quality of education at schools. Some writers even went further to claim that there is a functional relationship between the academic and professional qualifications of teaching and the level of development or quality of education in schools. Beeby (1966) argued:

There are two strictly professional factors that determine the ability of an educational system to move from one stage to a higher one, they are:

- the level of general education of the teachers in the system, and

- the amount and kind of training they have received (Beeby, 1966: 58).

Silberman (1970) widened this view to make it more precise and include schools at different levels:

The preparation of teachers begins not at college but in kindergartens or first grade. Teachers-to-be have spent some 10,000 hours in direct contact with elementary and secondary school teachers by the time they begin their first year of college. Unless special arrangements are taken, teachers-to-be are almost bound to teach in the same way as their teachers taught them (Silberman, 1970: 471).

Other educationists were broadly in agreement that teachers and their education are the principle means of ultimate improvement of educational systems (Dickson, 1967: 277). Coombs (1970) claimed that it was possible to bring some improvement to the quality of education in a country by spending more money building new schools, introducing new courses or instructional aid etc., but the real change would come about only as teachers change. In the UK, Ross (1973) argued:

Any expansion or improvement of the national system of education is most closely bound up with the recruitment and training of teachers (Ross, 1973: 284).

Within such an international environment it was not surprising that in Libya the view was held that if teaching is to progress on a sound basis in the schools, the teacher should be free to work out his own technique according to all the circumstances involved at any particular time. To reach this level of professionalism, the system needs highly qualified personnel to be free to use these techniques with skill, sound judgement and confidence, to make them into true educators. At the core of the training of all future Libyan teachers was pedagogy, based on advanced studies in psychology and the social sciences.

In 1965, there were about 1,000 foreigners teaching in Libya, more than 50 per cent of them Egyptians, so that trained native teachers were a 'minority'. Consequently, at the lower educational levels where the Government emphasised the use of indigenous talent, numerous unqualified teachers were employed. For example, of the 2,658 elementary teachers in the Western Region during the 1962-63 academic year, 41 per cent did not have their teaching diplomas and 53 per cent only held the general

teaching diploma (signifying only three years of teacher-training after the primary school level) (Le Seclleur, 1964: 27). Along with the expansion of provision, the standard of teaching declined as the number of inexperienced teachers increased. In any case, the untrained teachers were poorly paid and consequently worked without enthusiasm or hope (UNESCO, 1952: 31). In 1966, efforts were made to encourage this large band of unqualified teachers to acquire their diploma through further study part-time (INSET courses), the suggested period being eight to ten years. The standard of school teachers was low, but the immediate task was clearly that of replacing the untrained teachers with teachers who had at least some qualifications for the profession. It seems clear that to improve the quality of teachers would require INSET courses. These at least would be beneficial to those teachers with inadequate training, and go some way towards improving the quality of teachers. In connection with this matter, El Shabani (1970) wrote:

One of the grave problems that Libyan education faces today is the inadequate training of the national teachers, particularly in the primary and preparatory stages. If we are to improve our education, we should first improve the quality of teachers (El Shabani, 1970:1).

Certainly, significant progress was made. By the end of this first phase of Independence, the following programmes had evolved in Libya:

Four-year training programme: primary school teachers were trained at colleges providing a four-year course. The condition for admission was the primary school leaving certificate. During 1968-69, there were 5,159 teachers in training;

Two-year training plan: students were drawn from the graduates of the preparatory school. This programme followed basically the same curriculum as the four-year programme, taking into account the level of the entrants and the duration of the course;

Four-year Special Training Programme: The first special training institute was established at Tripoli in 1954-55 to train teachers for the preparatory level, and since then this type of teacher-training institute has been in steady expansion. The aim of this programme was to permit students to study specific areas of the curriculum in great depth. During the first year, the students follow a common general curriculum which consists of Islam, Arabic, English, Libyan Society, History, Geography,

Mathematics and Mechanics, Physics, Chemistry, Biology, Physical Education, Fine Arts, Music and Library Studies. In the remaining three years, students were subdivided according to their choice and their grades in the first year into three types of specialisation: (i) Arabic Language and Religion; (ii) Literary - Social Studies, Literature and Foreign Language; (iii) Scientific Science and Mathematics. These three branches of specialisation continued to be the only available specialities at the Institute until 1960-61 when two new branches were added: Physical Education and Arts Education. The establishment of these two branches was motivated by these being serious shortage areas in the schools, plus a belief in the link between physical and mental well-being, e.g. Mohamed Abu-Hadid:

Teacher-training should not be devoted merely to the preparation of teachers who can teach the various traditional subjects, such as reading, writing and arithmetic (the three Rs) but there are other important goals of education, such as the development of student's body, general intelligence, aesthetic task and art appreciation, and of his various mental abilities. To achieve these latter goals, it is essential to train teachers for physical and art education (Abu-Hadid, 1958: 40).

The 'training of teachers for secondary schools post-independence' was carried out at the faculties of education in Tripoli and the faculty of Arts and education in Benghazi. Students were recruited mainly from among graduates of the secondary schools, but graduates of teacher-training colleges who attained a prescribed average grade and who had taught for a specified minimum period were sometimes also admitted. Many of the existing teachers lacked interest and enthusiasm for developments and preferred to engage in other professions which offered better salaries and prospects:

The recruitment and training of teachers for preparatory and secondary schools and parallel technical and vocational schools is one of the most difficult problems Libya has to face. If an extra 11,000 pupils are to be enrolled over the next five years, at least another 400 teachers will be required, or an increase of 80 a year. This is more than the total numbers that will be graduating from the Libyan University during this period, and only a proportion of the University graduates will want to become teachers, though every encouragement should be given to them to do so ... Teachers must therefore continue to be recruited from abroad to fill the gap (IBRD, 1960: 264).

This situation led Nyrop to complain that 'the acute teacher shortage had been a major

hindrance to educational development' (Nyrop, 1973: 122). Indeed, experts during the mid-1960s estimated that teacher-training institutions could educate less than half of the primary and preparatory teachers needed by Libya for the 1964-1969 five year period. Naturally, such a situation might lead to a greater implementation of INSET courses to improve this predicament, involving in Libya at that time two main groups; namely the unqualified and the qualified teachers. Clearly the low quality of both groups of teachers impaired the efficiency of the whole system:

On figures supplied by the Statistics Section of the Ministry of Education, it appears evident that about half of our teachers in primary schools are untrained. This is a frightening situation, but it is one which just has to be faced, because of the urgent need and the lack of trained personnel. No-one is to blame for this situation, because it is the result of Libya's history. Her Independence and the feeling of urgency about education is felt by most Libyan people. The Libyan Government has done its best to deal practically with a very difficult situation (Vietmeyer, 1968a: 2).

The 'untrained' teaching plan had shown sufficient success, although it did not really solve Libya's increasing teacher problems (ibid: 10). The weakness lay in the lack of a structure for the training and retraining of all teachers by means of INSET courses, which take place all year round and in all areas of the curriculum, to continue professional development and cope with rapid change and innovation throughout the whole system.

Eventually, in 1968, the Ministry of Education developed a scheme which, had it continued, could have resolved the problem of training unqualified teachers. The course began in January and ended in June 1968, and at the end of six months' training, examinations were held for all the participants. Although opportunities were limited for unqualified teachers to attend this type of course, enrolment was large and encouraging:

There were 478 teachers who obtained their general teaching diplomas, and 212 got their special teaching diplomas, making a total of 690 qualified teachers in both sections (ibid: 10).

It was also stressed that INSET courses were vital for qualified teachers who require the stimulus of new ideas in order to be prepared to keep up-to-date with the changes continually taking place in pedagogical ideas and in society at large (Ministry of

Education, 1972). However, most efforts exerted by the Ministry of Education had been restricted to the training of unqualified teachers.

Libyan Education Since 1969

Since the revolution of 1st September, 1969, the country has continued to place a great emphasis on public education and has encouraged and subsidised study abroad by qualified students, especially in subjects not adequately developed at the Libyan universities, and/or institutions of higher education such as the sciences, medicine, and engineering. The critical need for technical skills has been re-emphasised and new facilities have been provided for the educational system to meet this need. The constitutional declaration issued in December 1969 extended compulsory education to include nine years of primary and preparatory school and stressed the right of all children to have a free education (L. A. R., Revolutionary Council, 1969).

The Libyan Revolution of 1969 suspended all the laws passed by the previous governments. Several events of great importance that made their mark on the educational system at all levels took place in the 1970s and 1980s. A decision was made to undertake an almost total remodelling of the content of curricula (Monastiri, 1982: 318). Post-revolutionary education was not simply a matter of designing new programmes, but of changing the whole nature of the educational system. The prevailing reasoning behind this was simple. Before the revolution, education was not designed for a mass 'Jamahirian' society. That education had to be modified in its spirit, content and outcome, so as to be appropriate for a society which had become 'Jamahirian' (ibid). Theoretically, all this seems reasonable but dangers would occur if the same subjects as before were taught using a different terminology. The teachers and curricula would be the same, as would their pedagogical methods.

Another event which profoundly affected the lives of young Libyans during that period was the preparation of a project to turn the school buildings into army barracks (ibid: 319). Military education became compulsory in all education from the third year of preparatory to the end of the university, including all the teacher training colleges.

The first major change and development in the National Curriculum is the introduction of basic education (primary + preparatory previously), secondary education, teacher preparation and technical and vocational education. In the late 80s and early 90s a fundamental change took place in the educational system in Libya. New modern

schools and institutions opened for all stages of education. New facilities, services, textbooks, extra-curricular activity and INSET courses are provided. Higher education has developed to reflect the changes in the schools system, the number of universities are increased to 13 universities in 1998, distributed across the different zones of the country.

Teacher Education and Training Since 1969

Efforts to expand teacher training and INSET courses continued under the new regime:

The existing system of teacher education is a result of a number of different programmes introduced over the years, and reflects the country's pragmatic attempts to counter a deficient education provision (Libyan Task Force in Collaboration (LTFC) with UNESCO, 1979:14).

Ongoing efforts to improve teacher preparation programmes are vital elements in improving public education. Many studies have been conducted in the UK, the United States and other parts of the world concerning the effectiveness of pre-service teacher education. In the Arab countries, the Arab Organisation for Education, Culture, and Science has long been involved in teacher preparation. In 1972, participants at a conference on 'The Preparation of Arab Teachers' recommended that:

Teacher preparation should consist of the following essential components:

- a) general education dealing with the Arab world in particular and contemporary global issues in addition to other subjects;
- b) major fields of specialisation in a number of allied educational disciplines;
- c) educational fields as theoretical studies in education such as educational psychology, counselling, educational administration, teaching methodology, and supervised student teaching; and
- d) practical programs where the student teachers focus on the application of theoretical preparation to practical problems in pedagogy (Arab Organisation for Education, Culture, and Science, Department of Education, 1973: 23).

The conference participants suggested that:

The academic part of teacher education is not only intended to fill

in the teacher in his major subject, but it should also be designed as to train him to continuously acquire knowledge in his major field. A teacher in a rapidly changing world should face children with up-to-date knowledge in his subject (ibid: 129).

Additionally, Al-Roushad and Abdulatif (1977), recommend ways in which colleges of education could help their graduates keep up-to-date about new teaching techniques and other areas of education.

It is vitally important for the Education Colleges and the Ministry of Education to jointly follow up on their university graduates. This follow-up activity can be conducted in various ways such as:

- a) to establish a sub-office to follow-up the university graduates in every college. This sub-office will supply the graduates with the documentation and literature necessary for their professions;
- b) to set up a seminar for graduates in each college annually: the graduates will select the agenda for each seminar by themselves;
- c) every college of education should seek the help of its graduates in conducting various research studies, especially field researches (Al-Roushad and Abdulatif, 1977: 15).

Arab education leaders have emphasised the importance of practice at teaching and student teaching in teacher education. Participants at the 1972 Cairo conference made the following recommendations:

The emphasis on practical training in student teaching would be transforming the theories and basics of teaching skills into the teacher's competent performance in his profession. This should be achieved by the following field experiences:

- a) short visits to training schools;
- b) more frequent observations of student teachers;
- c) concurrent and not separate implementation of student teaching and training;

- d) seminars for discussing pedagogical problems; and,
- e) visits to other colleges of education within the country.

Utilisation of current research findings in all the preceding areas, and updating pedagogical practices of the teachers (Arab Organisation for Education, Culture, and Science, 1972).

With regard to evaluating teacher preparation programs, the conference participants recommended the following:

1. There is a need for continuous review and evaluation of programs and techniques of preparing teachers in order to meet the demands of development in Arab societies and to improve the existing programs and techniques.
2. Evaluation should include all aspects of the educational process such as planning, curriculum development, preparation of textbooks, and the development of faculties for teacher preparation. For this kind of evaluation the staff should be specialised in its techniques.
3. This Organisation, the Arab League, will facilitate regular contacts among the representatives of Arab countries for study and exchange of experience in regard to teacher preparation.
4. The follow-up of graduates from colleges and institutions of education should be through visits, meetings and questionnaires that should be answered by the graduates, instruction director, and teacher educators in order to improve teacher education programs and to help improve the efficiency of graduate teachers (ibid.).

As enrolment increased, so teachers had to be found to staff the schools, and to meet the growth in population. During 1968-1969, there were 5159 teachers in training; by 1977-1978, this number had increased to 24,153. To achieve this quantitative increase, the following programmes had been involved.

Five-year Training Programme

This programme has traditionally drawn its students from among the graduates of the elementary schools. Recruitment from this low level was necessary to meet the exigencies of the stage of educational development (LTFC with UNESCO, 1979: 14).

With the extension of compulsory education to the preparatory level, it became feasible to change this programme, especially since the curriculum of the first three years of the five-year programme corresponds closely to that of the preparatory level. The curriculum of these five-year institutions consists of Islamics, National Development, English, Social Studies, Mathematics, Science, Hygiene, Fine Arts, Physical Education, Practice Teaching, Music, Education and Psychology. This kind of training programme no longer exists, teachers who held this certificate need to continue their professional development to meet the requirements of the massive change in the educational system.

Two-year Training Programme

Students are drawn from the graduates of the preparatory school. This programme follows basically the same curriculum as the five year programme with modification to take into account the level of entrants and the duration of the course (Ministry of Education, 1974: 26). Although this training programme no longer exists, teachers trained under this system still work in primary education and some of them went on for further INSET training to gain further qualifications, to become eligible for promotion, and to cope with rapid change and innovation within education, particularly the curriculum.

Four-year Programme

In addition to the two and five-year programmes, a four-year programme is offered by specialised training institutes. These courses also recruit students from among the graduates of preparatory schools. During the first year, students follow a common curriculum, consisting of Islamics, Arabic, English,, Libyan Society, History, Geography, Mathematics and Mechanics, Physics, Chemistry, Biology, Physical Education, Fine Arts, Music and Library Studies. During the second, third and fourth years, students follow one of the specialist courses of the Department of Arabic and Islamic Studies, the Department of Social Studies and English, the Department of

Science and Mathematics, the Department of Fine Arts, or the Department of Physical Education. Within these specialisation, the emphasis varies. 'For example, science students devote half of their time each week (20 out of 41 periods) to Mathematics, Physics, Chemistry and Biology' (LTFC with UNESCO, 1979: 15).

In 1979-80 there were 104 teacher training colleges with a total enrolment of 27,872 students and 2,113 teachers. These training colleges were also available as training centres for the aforementioned teacher training programmes for those teachers who wished to develop their proficiency and gain further qualifications and promotion.

The academic year 1983-84 was planned to be the focal year for the transformation of the different inefficient systems of preparing teachers into a new five-year system which students join after completing basic education (primary + preparatory): 'The new five-year system has been adopted to improve the quality of teaching in basic education schools and to implement the recommendations of ALESCO' (Ministry of Education, 1984: 8). Teacher-training at the new five-year system prepared teachers for basic education in schools. The course lasts five years after obtaining the preparatory school certificate. This pedagogically based programme offers the student basic knowledge of the physical, mental, psychological, social and emotional development of pupils as well as a working knowledge of methodology, evaluation and guidance which prepares the student to teach this level. However, in some municipalities that are short of teachers, the four-year system still prevails.

Pre-service teacher-training has, up to recently, been severely constrained by the low standard of the candidates. For some years, the primary school certificate had been accepted, but this has been raised to require a preparatory school certificate. There is a need for adequate modern buildings and equipment in the teacher-training colleges. All colleges are having to take on an increased number of students, but it is already apparent that without demonstration schools and better facilities, students still cannot gain a sufficient training for modern needs. INSET courses are still required to meet this modernisation and change.

The *curriculum* still tends to be antiquated and largely based on rote learning. There is insufficient opportunity provided for critical thought, analysis and application of principles. This type of criticism could, of course, be made of the whole education system of Libya. The formal examination is the whole focus, and so the non-

examinable subjects suffer under such a system. Not surprisingly there is great wastage owing to student failure and drop out. There is little evidence that anything can be done to 'unlock' the system. Teacher-training is certainly developing in quantity, but a real weakness is the lack of expert practising teachers able to run workshops and demonstration classes. Such teachers would provide examples that might be able to raise the quality of teachers and teacher training. According to Vietmeyer:

The programme of work in Teacher Colleges need careful and regular supervision by an expert committee so that the curriculum is made as wide and modern as possible and with no overstress on the 3 Rs ... I am sure, too, that a great deal of work is necessary in Teacher-Training Institutes, on methodology, and the full use of modern teaching aids. The qualifications of lecturers in Institutes should be carefully checked so that only really experienced and excellent teachers are employed (Vietmeyer, 1968a: 2).

From a practical viewpoint, teachers were concerned about their need for qualifications purely to allow them to teach in schools. In reality there is a need for INSET courses to continue their professional development, to cope with rapid change and innovation. INSET courses are needed to improve the performance of the teachers and to bridge the gap between basic qualifications required for teaching, and the performance standards which will hopefully be reached.

One major concern is that Libya is still preparing teachers to meet the requirements of the present and not the future. The style and content of the training process makes young teachers of the 1980s and early 1990s incapable of responding adequately to the demands of an evolving situation. We need, therefore, to introduce changes in the structures, programmes, methods of teacher-training at all levels and INSET courses for continuing professional development, bearing in mind that teachers graduating today are the ones who will bear full responsibility for the education in the next century.

Secondary school teachers attend the Colleges of Arts and Faculties of Education at any University in Libya. Students in the College of Arts are chosen from among those who hold a general secondary certificate. They receive a B.A. in arts and education after studying for four years and specialising in Arabic, English, History, geography, sociology, philosophy, or social studies. The college of Education also offers four

years of professional preparation in a number of fields such as Arabic, English, French, history, geography, sociology, philosophy, social studies, mathematics, chemistry, physics, science and biology. The college awards a B.A. or B.Sc. in a major field of education.

The Structure, Organisation and Forms of the Libyan Educational System

The educational system of Libya follows the pattern of a 9; 3,4,5; 4 system a nine-year basic education stage, a three-year secondary education, a four-year college and technical and vocational education, a five-year teacher preparation education and four-year higher education. A brief description of each stage follows and Figure 3.1 shows the structure and form of the educational system.

(1) Basic Education (Primary and Preparatory stages) forms the basis of the education ladder. At the beginning of Independence, the primary schools were unique in that males and females attended separate schools. Since 1971-72 the schools were made co-educational. In 1971-72 there were 1,075 co-educational schools (Tables 3.9, 3.10 and 3.11 contain the number of primary-preparatory and secondary schools, teachers male and female, pupils). Since 1951, general examinations were given at the end of six years of study, but in 1971, general examinations were abolished. Since 1971, the student of primary school who failed a level could repeat the year twice, then the student would be passed on to the next year (Gobbi, 1976: 29). The distribution of weekly periods in the elementary and preparatory cycle in 1984 is shown in Tables 3.12 and 3.13. As basic education is a compulsory course since 1971, the Ministry of Education has provided a place for each child who reaches the age of six throughout the country.

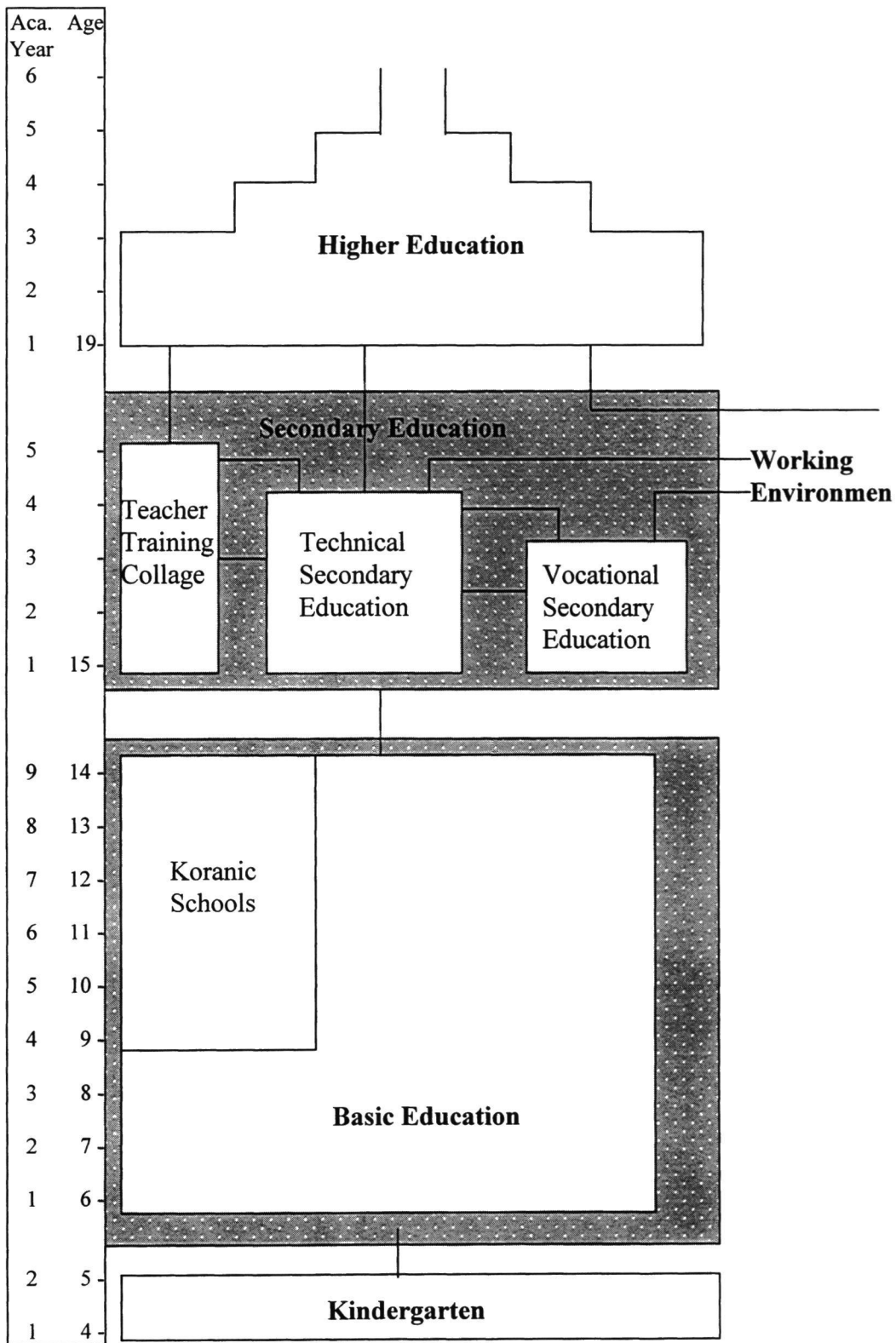


Figure 3.1 Structure and form of the educational system in Libya

Table 3.9 Number of teachers engaged at various levels of education during 1978-79 to 1979-80

Level of Education	Male Teachers		Female Teachers		Total	
	1978-79	1979-80	1978-79	1979-80	1978-79	1979-80
Primary	16949	17932	11280	12557	28229	30489
Preparatory	10247	10607	2743	3096	12990	13703
Secondary	2090	2394	260	429	2350	2823
Technical	822	568	86	69	908	637
Teacher-Training	1833	1591	680	562	2513	2153
Religious Institutes	-	80	-	-	-	80
Centres	-	-	-	-	-	-
Total	31941	33172	15049	17071	46990	50243

Source: Ministry of Planning, Education Statistics, 1979-80 (Table No.75).

Table 3.10 Number of schools by level of education 1975-76 to 1979-80

Level of Education	1975-76	1976-77	1977-78	1978-79	1979-80
Primary	2002	2143	2150	2212	2539
Preparatory	499	735	778	922	1025
Secondary	71	83	83	94	131
Technical	12	13	18	31	27
Teacher-Training	91	80	88	94	102
Religious Institutes	-	-	-	-	5
Total	2703	3085	3117	3353	3870

Source: Ministry of Planning, Education Statistics, 1979-80 (Table No.74).

Table 3.11 Number of pupils, males and females, in schools, by level of education: 1975-76 to 1979-80

Level of Education	1975-76		1976-77		1977-78		1978-79		1979-80	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Primary	294627	252130	297891	263208	303950	270280	315853	284894	347294	309247
Preparatory	82675	39088	98434	53261	106787	65439	115026	70518	130145	88992
Secondary	13848	3981	15754	4807	17295	5347	20754	6368	28240	10102
Technical	3285	-	4551	499	5455	812	9266	1072	7432	986
Teacher-Training	8490	12258	8603	13116	9115	15038	9923	19212	10509	20718
Religious Institutes	-	-	-	-	-	-	-	-	1003	-
Total	405582	309561	428012	337113	442600	356916	470822	388064	529003	433301

Source: Ministry of Planning, Education Statistics, 1979-80 (Table No's. 76 and 77).

Table 3.12 Study plan in primary education according to ministerial decree no. 275 for 1984

SUBJECTS	YEARS					
	1	2	3	4	5	6
Islamics	3	3	3	3	3	3
Arabic	10	10	10	10	9	9
Arithmetic and Practical Geometry	6	6	6	6	6	6
Science and Health	1	2	2	3	4	4
Education (Civics Education)	-	1	2	2	4	4
Physical Education	3	3	3	2	2	2
Practical Education (Fine Arts)	2	2	2	2	2	2
Agriculture/Domestic Science	-	-	2	2	2	2
Music and Songs	1	1	1	1	1	1
Ideological Education	-	-	-	-	3	3
TOTAL	26	28	31	31	36	36

Source: Secretariat of Instruction, Report on Educational Developments, 1981-1983 presented to the International Conference on Education, 39th Session, Tripoli, September 1984: 17

Table 3.13 Study plan in preparatory stage according to ministerial decree no.285, 1984

SUBJECTS	1st Year	2nd Year	3rd Year
Islamics	3	3	3
Arabic	7	7	7
English	6	6	6
Maths	5	5	5
Science and Hygiene	4	4	4
History, Geography and Civics	4	4	5
Fine Arts	2	2	2
Handicrafts and Agriculture (for boys) and Domestic Science (for girls)	2	2	1
Physical Education	2	2	1
Music and Songs	1	1	1
Basic Training (Military Education)	-	-	4
TOTAL	36	36	39

Source: Secretariat of Instruction, Report on Educational Developments, 1981-83, presented to the International Conference on Education, 39th Session, Tripoli, 1 September, 1984: 18

(2) Secondary Education: To be admitted to the secondary schools a student should complete the basic education stage successfully and should not be over 18 years of age. The course of study lasts for three years after which a general public examination is held at the national level. Those who pass the final exam are awarded the Certificate of General Education. Study in the first year of this stage is general while in the next two years students either join the literary or scientific division according to their desires and capabilities. To be promoted from the first or the second year, a student should obtain the minimum pass mark for each subject. He/she should also obtain at least 25 per cent of the grade assigned to that subject and 60 per cent of the final exam set up by the school at the end of the school year.

In the light of the current and future huge task called for by the different sectors of the Development Plan, students completing Basic Education are directed to Technical Schools, General Secondary Schools and Teacher Training Schools, taking into consideration the student's potential and interests (Ministry of Education, 1984: 7).

However, from the academic year 1983-84, stress was laid on appropriate balance between theoretical and practical studies in order to prepare the students for the world of work and continuation of higher studies (Ministry of Education, 1984: 7-8). With the new educational structure, the secondary school system is changed to three specialised branches:

- Technical Secondary Education;
- Vocational Secondary Education;

- Teacher Training Schools.

The new system after the basic stage prepares students for a job to enable them to participate in production and to continue their education if they so wish. They will study for four years instead of three in the secondary schools. To be admitted to this type of education the student should have completed the basic educational stage and should not be less than 15 years of age. The course of study is four years. The Secretariat of Education finances, administrates, supervises and manages their exams, and issues certificates.

Promotion from one grade to another is determined by the year's work (40 percent) and the final exam (60 percent) at the end of the year. To pass the exam a student should score 50 percent in the total mark. Students of the final year of study sit a written exam and a practical one in order to receive a diploma. Under certain conditions, those who show distinction upon graduation from the four-year course are allowed to join some of the faculties of the university.

(3) Higher Education: Libyan higher education serves the country by providing various fields of specialised study within the framework of a comprehensive development plan. In August 1973, the University of Libya was divided into two universities: The University of Benghazi, which included all the faculties in Benghazi and Beida; and the University of Tripoli, which included all the faculties in Tripoli and Sebha. In 1976, both universities were renamed: the University of Benghazi became the University of Garyounis, and the University of Tripoli became the Al-Fatih University. In the 1980s the faculties in Beida and Sebha were made into an independent university, further faculties were opened in Zawia, Musrath, Garyan and Zaltan with different subjects and they belong to the universities of Al-Fatih, in Tripoli and Garyounis in Benghazi. By the early 1990s and recently higher education has improved a great deal. Faculties promoted to the independent universities and the number of universities has increased to 13 Universities in different subjects. These are distributed across the whole country, according to population needs and the educational policy.

Within the framework of the new educational structure, the university faculty system has been changed to the system of specialised departments or centres. Undergraduate degrees fall into two categories, according to the length of the courses which range

from 2 to 3 or 5 years, depending on the nature of the specialisation.

Educational Administration

The Secretariat of Education (formerly the Ministry of Education) is the foremost authority with respect to all educational matters in Libya, and is responsible for:

- 1) Developing educational policies.
- 2) Establishing and supplying schools, institutes, and colleges for the enrolment of Libyan students at all levels.
- 3) Preparing and developing curricula, syllabi, and textbooks as needed.
- 4) Employing and training teachers. When necessary, the Secretariat also arranges for personnel to attend training courses abroad.
- 5) Supervising private schools and institutes.
- 6) Eradicating illiteracy within a period of years.

There are two levels of administration in the educational system in Libya: (1) at the central level, the Secretariat of Education is concerned with overall educational planning, research, and follow-up; (2) at the local level, zone educational offices (Prior to the alignment 'cultural revolution' of 1973, the country was divided into education provinces. These provinces had the responsibility for achieving educational objectives in their areas. After the revolution, the provinces and their relative departments were abolished and replaced by zone offices) suggest local development plans and carry out the local educational process in accordance with central decrees and instructions. The Secretariat reviews their suggestions and recommendations and offers general policy guidance.

In accordance with the principle of collective leadership (The principle holds that people should control the administrative machinery of the state) declared by the 'cultural revolution' on 13 April 1973 and by 'the people's revolution,' people's committees were assigned responsibility for managing the Secretariat of Education and the local educational zones. The chairman of the people's committee in each zone was assigned responsibility for directing educational activities in the zone. Collectively, the chairman of the people's committee form a Secretariat people's committee which is considered to be the higher authority in the Secretariat of

Education, figure 3.1 outlines the latest reorganisation of the educational administrative structure.

The Secretariat of Education's plan, which started in 1976, has among its objectives:

1. Providing educational services at all stages in accordance with the compulsory education law and in support of the principles of the democracy of education.
2. Developing qualitative and quantitative educational plans, particularly in technical education. This process should seek to improve syllabi, school textbooks, teaching aids, and extracurricular activities. It should also provide guidance and selection in order to supply adequate personnel to meet the requirements of the development plans.
3. Encouraging girls to continue their education.
4. Encouraging co-ordination in the educational pyramid by lessening the difference between the base and the summit.
5. Developing teachers' training Institutes to improve performance in accordance with the requirements of compulsory education.
6. Providing efficient educational administration in schools; local educational departments, and in other leading educational institutions.
7. Sending scholars to study abroad in subject areas not locally available in order to meet the requirements of development plans.
8. Eradicating illiteracy and providing adult education through national programs in which all departments, organisations, and institutions of both the private and public sectors take part (ibid).

Some Problems of Educational Development in Libya

Education is considered one of the most valued assets by most Libyans today. In addition to the general problem of planning the future development of education in Libya, it would seem there are several other issues which require special attention:

(a) As indicated elsewhere in this chapter, qualitative changes in education have not been able to keep pace with the rapid quantitative expansion in Libya. This gap between quantitative expansion and qualitative changes is clearly reflected in the state of curriculum development. While there have been attempts to reform some aspects

of the curriculum through meetings of special committees, change of textbooks, supplementary material for courses of study drawn up in previous years, there is still an urgent need to focus attention on the key elements of curriculum development (LTFC with UNESCO, 1979: 31).

(b) Another problem facing the Libyan Government is the curriculum of Libyan schools at all levels. On the whole there is little regard for individual differences, all children follow the same curriculum and are evaluated by the same standards. Instructional methods and procedures are still traditional, memorisation rather than reflective thinking, giving little attention to individual differences, if any, and demanding little library work and independent study (El Shabani, 1962: 101).

(c) Systematic evaluation is lacking from the curriculum process. This applies equally to the evaluation of students and/or teaching performance, as well as the evaluation of content and programmes of study. In the present circumstances, it would be difficult to assess the progress of qualitative changes which might be attempted in several areas of reform (LTFC with UNESCO, 1979: 33). Scientific research on the basis of elements of the curriculum is not being undertaken. Systematic research, is essential in curriculum development as in other areas of education.

(d) With regard to content and methodology, the curriculum is too restricted to meet national development goals. There is, at present, no organised system of technical and vocational education. The accent is on academic learning; even subjects with a practical component are taught with a largely theoretical bias (LTFC with UNESCO, 1979: 33).

(e) School organisation and administration is highly centralised. The higher administrative positions are still political appointments and filled by people lacking adequate education and administrative competency (El Shabani, 1962: 101).

(f) The most immediate administrative problem is the demand for skilled and experienced administrators to operate the local system of education. INSET courses for managerial issues are required to combat this problem.

(g) In administration as well as in curriculum development, the supervisors and the headmasters have a key role to play. However, at the present time they seem to be overwhelmed with so many duties that they would hardly have the time to occupy themselves with essential problems of development. Furthermore, they should have

special training (INSET courses) for their jobs (ibid.).

(h) Most Libyan teachers, especially those in basic education, are not sufficiently qualified for teaching and are in great need of special training and continual professional development.

(i) There is a need for updating and developing teachers at all levels, i.e. for human resource development, developing knowledge and pedagogical expertise in an increasingly wide range of subjects;

(j) there is a need for INSET to be matched more closely to national goals and needs and individual teachers' needs;

(k) there is a need to match INSET with changes and innovations;

(l) there is a need to change teachers' mentality from a life-long initial training to continuous professional development, replacing a 'deficit' model of INSET to positively supporting continuous change.

(m) This chapter has shown that Libya has a long history of change and of failure to meet the demands of change, by its educational service. This has to be remedied, and effective INSET is one element of this.

Conclusion

This chapter presents a review of the literature relating to the historical background of Libya. This review has considered the development of the educational system, teacher education and training, administration and the structural organisation of the educational system in Libya, to provide a theoretical basis for the study of educational development and change, with particular reference to education change and teacher training. An indication of the important effects of religious and political ideology on educational development has also been provided. This gives a clear picture of the educational system and its past development. From this historical perspective the researcher can gain an insight into what is needed now and in the future to introduce effective INSET programmes to cope with the change and continuous development of the educational system to meet the needs of both society and the individual.

Curriculum content has necessarily changed over the period covered in this chapter. The reasons for these changes have been determined by the ruling power of the time and its political aims. Since Libyan Independence, the changes in the curriculum were

brought about as a result of the growth in population and the urgent need to eradicate illiteracy within society. More recently, curriculum change was necessary to accommodate growth within the employment, economic, social and cultural arenas in Libya. Because of this growth, the society needs to have a generation able to direct and manage such development in Libya. To this end, a changing and wide-ranging curriculum would provide a vast scope of subject areas within different educational levels to meet the needs of both the individual and society as a whole. For now and in the future, change is an inevitable part of life. This continual change may occur due to elements discussed earlier and to prepare for further developments as yet unknown. These changes will require human preparation and human resource development to accommodate such events. Teachers and curriculum content are the starting points to deal with these inevitable changes, echoing the comments made in chapter two for change to be person-centred and targeted to individuals..

From this review of the literature it is clear that there has been no systematic INSET programme for Libyan teachers to date, with the exception of some short courses undertaken only when required to deal with specific issues as they arise. For example, in the late 1980s the curriculum for basic and secondary education in Libya was changed. As a result of this new text books were introduced and short INSET courses were provided to deal with this changes at the time. However, this was a temporary measure to deal with a temporary target within the education system. This approach is not enough to achieve continuing educational change, particularly within the context of curriculum content.

Educational change is a continual process and, as such, this approach to INSET courses is not sufficient to deal with the ongoing process of continual change. Teachers always need to keep informed of current research and innovation within the education system; they need to be up-to-date within their subject area and need the training to cope with change within the curriculum.

INSET programmes in Libya have shown a lack of concern with regard to such needs, yet little, if anything, is done to improve this situation. Although there have been changes to, and development of, the curriculum in Libya, from the perspective of educational policy makers there is no 'tool' for managing such change. This may affect teachers, schools and the nation as a whole in the field of educational development. Therefore there is a need for a clear INSET programme to be

developed, along with the development of a meaningful role for such programmes in relation to continuing professional development and educational change.

Pre-service and in-service training are inextricably linked, as the aim of both is to promote the educational process. Co-ordinated and effective INSET are required to build on teachers' pre-service training and current needs.

An indication of Libyan society's focus directed towards quantity of teaching staff rather than quality, due to the increased pressure on educational resources stemming from the rapid growth of the population, has resulted in an ill-equipped teaching force that is poorly matched to new developments and requirements. Hence INSET is an urgent need.

Within the historical perspective of this chapter it is clear that there has always been a chronic shortage of initial teacher training and INSET. It has also been shown that there is a genuine need for effective, targeted, well-matched and extensive training programmes to improve the quality of teachers' performance and the system as a whole to meet the rapid changes which have occurred throughout this time period.

There is evidence of elements of development in various aspects of the education system, particularly in curriculum content, during the different colonial periods, but teacher training has not followed the changes very closely for many reasons. The main reason seems to be that concern appears to have been focused on the need to achieve temporary targets of quantity of teachers, rather than the long term target of Libyan society's needs for high quality teachers.

Teacher education systems have experienced rapid and continuous change. While the development in these systems may prove to be valuable to the teaching profession and education, it is doubtful whether any initial training can fully prepare a teacher for a lifetime career; teachers should be involved in a continual learning process throughout their professional life. As Dalin *et al* (1993) observed in chapter two, the locus of change is the individual teacher. Stiles (1960) listed four reasons for the necessity of continuing professional development for teachers:

- the low level of preparation with which teachers begin;
- the differences in educational programmes that prevail from school to school;
- the multiplicity of unsolved professional problems that confront teachers;

- the impact of new knowledge upon individual courses and school curricula.

Moreover, there is now a tendency to think of teacher education and training as a continuous process which should disregard traditional frameworks, and pre-service is the initial stage at which the educational process begins. Teacher education process (pre-service) will be helpful to summarise the important features of the establishment of teacher training and their programmes. This knowledge can be utilised in designing INSET programmes in the light of professional needs.

No-one can analyse the effectiveness of the INSET without considering the subject of pre-service education because the two activities are inter-linked both structurally and chronologically, and because the aim of teacher education and training, whether pre or in-service, is to promote the educational process. 'Pre-service and in-service training are fundamentally two parts of the same process' (Chaffer, 1975: 29). It is therefore sometimes necessary to re-examine the method of teacher training and the content of training programmes.

There is a genuine desire on the part of the educational authorities to promote the quality of education by giving adequate attention to the training of teachers at different levels, but so far their efforts have been insufficient. There is also a general trend towards raising the standard of students admitted to teacher-training institutions and consequently to the teaching profession:

The main problem is how to meet change and to develop new ways in which individuals and institutions can cope with it. The main answer is continuous learning: that is, 'lifelong education' (Henderson and Perry, 1981: 2).

The way ahead for the development of teachers in Libya is beset with many problems, but the task is essential to the development of the national system of education as a whole. The quality of staff and their professional development is the key. The efficiency of teachers is the function not only of a good general education but also of continuing professional training, because, without suitably qualified staff in the education system, it will never develop adequately to meet the necessary educational changes.

Hass (1957) recognised a number of factors which show the need for INSET:

- the continuing cultural and social change which creates need for curriculum

change;

- pre-service education cannot adequately prepare members of public school professional staff for their responsibilities;
- the increase in pupil enrolment;
- the continuing increase in the number of teachers;
- the continuing shortages of adequately prepared teachers;
- the increased need for improved school teachers.

The change in the education system and teacher education and training could be the key element in improving the current training programmes in Libya and determining whether or not these programmes provide teachers with the appropriate skills and professional growth, and determining whether or not INSET in Libya is designed according to teachers' and curricular needs. It is clear that efforts towards educational change should focus on the improvement of the educational system and ultimately the improvement of the curriculum. This requires effective INSET programmes that are planned in accordance with the needs of the teachers involved in the programme. Continuing human resource development - of teachers - is the key to meet Libya's economic and educational needs at a time of massive change in Libya - social, economic, educational, demographic, political, cultural and personal.

CHAPTER

4

RESEARCH DESIGN

Introduction

The main aim of this study is to identify the role of INSET in helping teachers to improve their professional effectiveness in meeting the demands of change. The current thought on INSET in Libya is a reflection of the historical development of education in the country and teachers' needs to improve their effectiveness for change. So far this study has comprised a documentary review of the literature in the previous chapter, but in order to examine current realities and achieve a better understanding of the issues involved it is necessary to undertake empirical research, to find out exactly what is taking place in the education system in Libya regarding the difficulties that teachers face in their work and the opinion of teachers concerning their training and to suggest how change and improvement in these matters can be brought about.

INSET programmes are primarily for teachers and should reflect the different sets of needs of teachers and schools. As was mentioned in chapter two, if the programme does not initially meet the perceived needs of teachers, it stands less chance of success. Careful consideration must be given at all times to the way in which INSET activities are planned, carried out and managed. There is an awareness in Libyan society that teachers' performance is insufficient, so INSET programmes should be given careful consideration to meet the teachers' needs, while the change in the society is rapidly taking place and the education system is developed. Providing effective programmes of INSET for teachers to help them to deal effectively with the new developments and improve their part in the education system is an important issue.

From the review of the literature in the previous chapter, it is clear that very little INSET activity is organised around major educational problems, growing out of the

needs of teachers and schools in Libya. In this respect there is little research in the area and no one has carried out systematic research on this issue in Libya. So this exploratory research is based on the main issues derived from the literature (previous chapters) regarding the development of the education system in Libya and the role of INSET in meeting teachers' needs.

Operationalising the research purposes

The main purposes of the research are to identify the most effective ways in which INSET can be organised in order to meet the demands for educational change in Libya. This study takes as axiomatic the need for INSET to support change; the question, therefore, is how the INSET can be most effectively organised to serve educational change which, in turn, meets the needs of Libya as a rapidly changing and developing nation. The process of operationalization is designed to convert a generalised research purpose into specific research questions about which concrete data can be provided. This can be broken down into several stages:

- (i) casting the research purposes into research questions;
- (ii) breaking down each research question into constituent components and elements;
- (iii) recasting each component or element into specific, practical, concrete questions to which specific, concrete answers can be given on the basis of empirical data gathered that will address all the main aspects of each question;
- (iv) specification of the type(s) of data required to answer each question;
- (v) specification of the data sources - who will provide the answers to each question.

This study deliberately adopted a person-centred view of change as indicated in chapters one and two, hence it had to build into its design the need to involve the participants in the change process. Further, taking the views of change outlined in chapter two, that it needs to be responsive to real, felt needs, the study had to ensure that INSET provision for change was responsive not only to the demands of the change but to the demands and needs of the participants. This necessitated not only an identification of INSET needs, but, stepping back a stage, to identify *what these needs were for*, i.e. to ensure that the INSET was responsive to the teachers' real needs and the problems that they experienced. Chapter two indicated that it is of little use in organising INSET when the needs that the INSET were serving were either unknown

or inaccurate (i.e. not addressing the real problems and real needs in the classrooms - the locus of change (Dalin *et al.*, 1993). Hence it was important to establish what the problems were that the INSET might address. These problems had to be articulated in the participants' terms for them to be realistic and to make the INSET appropriate.

Further, because there was a spread of participants, and it was important (chapter 2) to ensure that INSET was tailored to specific participants' needs, it was important to have a research design that would enable the researcher to identify the degree of *commonality* of factors within and across participants groups, to identify *discrepant responses* amongst participant groups, and to ensure that specific variables within the sample would be identified, in short to determine the extent to which responses varied by client group and an identification of the range of responses and the range of participant groups. Hence the instrumentation and sampling have to cohere with the operationalized research questions (c.f. Morrison, 1993, chapter 2).

Chapter two argued that teachers themselves are in an important position to identify the problems that are being faced in ensuring effective education in schools, echoing the discussion there that those closest to the problem are frequently the ones that are best placed to identify the problem. This is a view that Morrison (1998, chapter three) articulates, drawing on the experience of Japanese management of change theory. Hence the operationalization of the research purposes had to enable the instrumentation and focus to identify what those problems were. Having done that, the research was then able to move beyond an analysis of problems and towards an identification of the role and contents of INSET that will address these problems.

The person-centred view of change identified in chapter two recognises that participants in change and INSET in Libya will have their own views of the purposes, nature, contents, organisation, administration of and preferences for, INSET in Libya. Effective INSET must be responsive to these views. Hence part of the operationalization of the research is to catch these views.

Taking these points into account, the operationalization of the overall research purposes can be broken down into seven main areas, to suggest that the research must:

- (i) identify relationships between biographical and professional information and views about INSET;
- (ii) identify what teachers consider to be the difficulties that they are experiencing in their work;
- (iii) examine what teachers do currently to improve or attempt to improve their effectiveness, i.e. to identify the starting points for change to be responsive to felt needs in the terms of the teachers themselves;
- (iv) examine what teachers feel needs to be done if their part in the education system is to become more effective, and to identify the criteria used to judge effectiveness and improvement;
- (v) examine the role of INSET in meeting teachers individual and the system's needs for greater effectiveness in a time of change;
- (vi) examine the patterns of perceptions (attribution), opinions (attitudes) and preferences of teachers toward INSET in Libya;
- (vii) examine how INSET can be most effectively managed to improve education in Libya.

These seven elements build in the person-centred dimension; they address the effectiveness of INSET in meeting real needs; they identify what those real needs and problems are; they see how these factors vary according to characteristics of the sample; and they enable participants to identify the most effective INSET to meet those needs (e.g. in terms of aims, objectives, content, pedagogy, outcomes, monitoring, assessment and evaluation). The remainder of this chapter takes forward the stages of the research operationalization outlined above.

Clearly the research demanded an empirical study. The empirical study of INSET in Libya is very important as a basis for any introduction that is to take place to meet the developments in the education system and the changing needs of Libyan society. The research adopted a survey approach, because it is a method of collecting large scale data, from which patterns, discrepancies and commonalties, stratification and generalisations can be derived and inferred. It reveals and addresses factors within and across situations, evaluating their relative importance and enabling powerful conclusions to be drawn from the research. Morrison (1993) suggests that 'a survey,

questionnaire or interview might ask for details which are factual, statistical, opinions, perceptions, reactions etc.' (p.37). The empirical dimension of this study will consist of a survey research by questionnaire of a selected sample of teachers in basic and secondary education. Typically, surveys gather data at a particular point in time with the intention of (a) describing the nature of existing conditions, or (b) identifying standards against which existing conditions can be compared, or (c) determining the relationships that exist between specific events (Cohen and Manion, 1994).

Methodology

The research methodology refers to the approaches to or style of educational research to collect data, which can be used as a foundation for inference and interpretation, for explanation, prediction, and to help us to understand in the broadest possible terms, not only the products of scientific enquiry but the process itself (Cohen and Manion, 1994). Educational research methodology is the systematic application of a method to the study of educational problems.

Educational research has been defined in various ways. Some definitions show that the goals of educational research are unique to the study of education. Travers (1958) defines educational research as:

an activity directed toward the development of an organised body of events with which educators are concerned (Travers, 1958: 44).

Peters and White (1969) define educational research as:

systematic and sustained enquiry carried out by people in some form of thinking in order to answer some specific types of questions (Peters and White, 1969: 3).

The aim of educational research which follows from the objectives of natural science, is to explain, predict and/or control educational phenomena. Gay (1981) pointed out that the major difference between educational research and other scientific research (e.g. social sciences) is in the sort of phenomena to be studied. Also it is recognised by social scientists that it is more difficult to explain, predict and control situations associated with human beings, they being the most complex of all organisms. Also research methodology in education, as in social science more broadly, is constantly changing and widening. There are diverse research methodologies, each being

especially useful for some specific area of research. It is the researcher's task to select the most appropriate model for the research project in hand which will address the issues under scrutiny.

Quantitative methods (e.g. survey research, experimental research, historical research, descriptive research and correlational research) use the techniques of randomised experiments, quasi-experiments, paper and pencil (objective) tests, multivariate statistical analyses and surveys. Qualitative methods include ethnography, interpretative studies, case studies, in-depth interviews and participant observation (Reichard and Cook, 1979: 7). Qualitative research is an umbrella word used to refer to a particular research approach that possesses certain characteristics whose roots lie in more than one discipline (Bogdan and Biklen, 1982: 3), e.g. phenomenology, anthropology.

There are several styles of research which utilise quantitative and qualitative approaches. However, research in education can be classified in different ways reflecting different points of view. For example, Sax (1979) classified educational research as analytic, descriptive and experimental, e.g. phenomenological, naturalistic, hypothetico-deductive and Borg and Gall (1983) classify educational research as historical, evaluative, experimental, observational, and survey. There can be many research styles, in education and in social sciences generally, for gathering information to understand any phenomenon. Educational research can be placed in one of the following broad categories:

1. Historical research: which involves studying understanding and explaining past events;
2. Correlational research: which explores relationships between variables;
3. Descriptive research: aimed at describing the characteristics of subjects;
4. Action research: which is concerned with a local problem and is conducted in a local setting;
5. Case study: which looks at an individual group or institution;
6. Experimental research: which manipulates one or more variable(s), and measures the effects of these manipulations on other sets of variables;

7. Ethnographic research: which comprises analytical descriptions or reconstruction of intact cultural scenes and groups and recreates for the reader the shared belief, practices, artefacts, folk knowledge and behaviours of some groups of people.

All of these styles of research are important, each style being especially useful for some specific matter/area and specific purposes. Each style of research has advantages and disadvantages (Cohen and Manion, 1994). It is the researcher's task to select the most appropriate research methodology to serve the purpose of the research and the research questions. It is not the purpose of this chapter to review the several different methodologies and styles of research. Rather this study will focus on the most appropriate research styles for this particular study, i.e. to provide a justification for the methodology adopted here. Human beings, the usual subjects in educational research, are much more complex organisms than the subjects studied in other sciences. Hence it is important to utilise a research methodology that attempts to catch this complexity.

From the different styles of research the styles will be used in this study are:

- (i) Historical research: historical research has been defined by Cohen and Manion (1989) as:

the systematic and objective location, evaluation and synthesis of evidence in order to establish facts and draw conclusions about past events (Cohen and Manion, 1989: 48).

It involves studying, understanding and explaining past events. The researcher used this approach in the review of the literature in the previous chapter to give a clear picture and better understanding of the development of the education system in Libya and the situation that it currently faces.

- (ii) Correlational research: correlational research is an attempt to determine whether and to what degree a relationship between two or more quantifiable variables exists. The purpose of a correlational study may be to establish relationships or to use relationships in making predictions (Gay, 1981: 13). This approach has several attractions:

1. The investigator can explore a wide variety of different relationships in the same study;

2. Correlational research is particularly useful in tackling the problems of education and the social sciences because it allows for the measurement of a number of variables and their relationships simultaneously.
3. It is especially useful for lower-level ground work where it serves as a powerful exploratory tool and it does not require large samples (Cohen and Manion, 1989: 165).

However, correlational research has significant limitations:

1. Correlational research only identifies what goes with what - it only implies concomitance and therefore does not necessarily establish a cause-and-effect relationship.
2. It is less rigorous than the experimental approach because it exercises less control over the independent variables.
3. It is prone to identify spurious relation patterns.
4. It adopts an atomistic approach (ibid.: 165).

Correlational research will be used in this study in order to identify relationships between biographical and professional information and views about INSET, in order to be able to make specific, targeted, differentiated recommendations for different groups involved in INSET.

(iii) Descriptive survey: most descriptive research in education can be classified as either survey research or observational research. In this study, the descriptive survey has been employed. The descriptive method has been chosen because it is primarily concerned with portraying the present situation and describing existing conditions with the hope of improving them in the future. As Best (1981) states:

a descriptive study describes and interprets what is. It is concerned with conditions or relationships that exist, opinions that are held, processes that are going on, effects that are evident, or trends that are developing (Best, 1981: 93).

Descriptive research is defined by Gay (1976) as involving:

collecting data in order to test hypotheses or answer questions concerning the current status of the subject of the study and determines and reports the way things are. Descriptive data is

collected through a questionnaire survey or interview or observations (Gay, 1976: 10).

Gay (1981) also explained the purpose of using survey research:

a survey is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variable (Gay, 1992: 219).

This was particularly important in light of the comments made in chapter two, which argued that effective change has to involve participants, has to be people-focused, has to identify their expressed needs and perceptions - the locus of change is with people.

Ary *et al* (1990) suggest that descriptive types of research are:

designed to obtain information concerning the current status of phenomena. They are directed toward determining the nature of the situation as it existed at the time of the study (Ary *et al*, 1990: 381).

The descriptive survey style is the principle means of data collection here, using some correlational research. The reason for adopting this method was because the researcher wished to collect data by using closed questions because:

- A wide ranging, inclusive and comprehensive sample was sought in order to identify patterns, trends and key factors;
- The sample was too large to be interviewed;
- It saved time;
- It was helpful in generating original data to answer the research question. As the researcher wished to make generalisations, to generate frequencies, distributions and correlation, to examine statistical significance, to calculate correlation, and to test hypotheses, in short to use quantitative methods. Through this approach the researcher could gather data from a large sample of people. The issue here is that the purpose of the research was to be able to make generalisations about the wider population, using a large scale survey to be representative of the population; the decision to follow this line of research entailed the development of straightforward, easy-to-complete, quantitative analysis, i.e. to measure the strength of comparable responses and to see how these responses varied by different participant groups (Cohen and Manion, 1994)

- The research is the first of its kind in Libya, hence it is exploratory research. The value of the researcher using a survey method is amplified by Borg (1981) when he said that the survey method in education can be used to explore a very wide range of topics.

Instrumentation

A content analysis of the questionnaire

The term *instrument* is often used in the context of social research to refer to a document, such as a questionnaire, which is employed in the data gathering phase of a research project (McClean and Wilson, 1994: 3). The data for this study were collected from basic and secondary education school teachers and a range of other educationists in Libya, by means of a questionnaire to gather a large amount of data from a large sample. The questionnaire incorporated *closed format* questions, using single answers, rank order and five point, Likert style, response scales, in order to answer the research questions. The questionnaire was designed to move from straightforward factual questions to more complicated, in-depth and sensitive questions (Oppenheim, 1992). There was a clear chronology or sequence to the questionnaire. It began by collecting factual information about the sample. Then it moved towards the identification of real problems and difficulties that teachers face; then it moved to an identification of what teachers are currently doing to address those problems and difficulties. These stages were essentially reporting and description (e.g. of perceptions and practice). The questionnaire then moved on towards a more speculative element, asking participants to identify what they felt needed to be done to improve the education service, and what the role of INSET was to be in that. Given that there was to be a role for INSET, the questionnaire asked participants to identify some key factors in that INSET provision, for example, its purposes, contents, organisation, audiences and participants, timing, impact on practice, styles of delivery, location, resourcing, providers, impact on students, and participation. The sequence of the questionnaire, then, was: factual details → descriptions, perceptions and problem identification → analysis of current INSET practice to solve problems → speculative identification of matters for improving INSET to solve perceived problems → practical matters in the organisation of INSET. The move from fact to analysis to prescription and to practicality is both chronologically and conceptually logical. This

progression was deliberate, in that: (a) unthreatening nominal data were asked for first in order to put the respondents at their ease; (b) respondents were asked to identify problems and *in their own terms* rather than to have them suggested by an external researcher; (c) it was important to ask for an identification of problems *before* asking about INSET, so that the questions about INSET did not 'steer' the questions about problems and so that a view of INSET as 'problem-solving' would have a firm foundation; (d) there would be a move from fact and reality to speculation, i.e. so that the issues were rooted in reality and then move beyond simply being a 'wish list'.

The main purpose of the investigation was to identify the difficulties that teachers face in their work in the terms of the teachers themselves, and the opinion of teachers concerning their training in Libya, in trying to identify the role that INSET will be able to play in helping teachers to improve their effectiveness and to suggest how change and improvement in these matters can be brought about, starting with the perceptions of teachers. Perhaps more importantly, the questionnaire sought to answer the following major questions:

1. What are the relationships between biographical and professional information and views about INSET?
2. What do teachers consider to be the problems they experience in their work?
3. What do teachers do now to improve their effectiveness?
4. What do teachers feel and see the possible ways of helping them to improve their effectiveness?
5. What are the roles of INSET in meeting individual and the system's needs for greater effectiveness in a time of change?
6. What are the patterns of perceptions, attitudes and preferences of teachers towards the whole field of INSET?
7. How can INSET be most effectively managed to improve education in Libya?

In generating the questionnaire items, the instrument contained five sections:

Section one (10 items): concerns personal details and was constructed especially for identifying relationships between biographical information and views about INSET. It requests information on the following nominal variables: sex, age, teaching experience, teaching subject, qualification, number of classes, number of student, level

of classes and hours of teaching per week. The identification of these factors would enable the research to identify relationships between biographical and professional information and views about INSET;

Section two (22 items): concerns teachers' professional problems. It requests identifying the difficulties teachers experience in their work. This would enable the research to ensure that any prescriptions would be effective in meeting real needs. It would start where the practitioners were and would build on the professionalism of participants by asking for their involvement in problem identification.

Section three (14 items): concerns the current state of CPD for teachers. It requests examining what teachers do now to improve their professional effectiveness. Chapter 3 indicated some areas of possible weakness in INSET and CPD that currently obtain in Libya. This section provides empirical evidence about this. It also builds on teacher professionalism by recognising that many teachers in Libya already take the steps that they can to address the problems that they have identified. If CPD is to be effective then it has to take account of existing practice and build on this information; that is implicit in the theory of change outlined in chapter 2. Effective change has to start where people are, and it needs to be evidence-based, therefore there is a need to gather the evidence of the current situation in Libya in terms of what teachers are currently doing in terms of CPD; this an important element of the needs analysis that was identified in chapter two as an essential precursor to effective change. Indeed the whole empirical element of this thesis is a worked-out needs analysis.

Section four (14 items): concerns teachers' feelings about their professional improvement in future. It seeks the possible ways which teachers see to help them to improve their professional effectiveness. To ask participants to identify *their* needs *in their terms* is a significant way of involving them; involvement, engagement and ownership are important elements of effective change, and chapter 2 argued that these have to commence from the very beginning of the process of change. It adopts the problem-solving model of change that was advocated in chapter 2 as an effective strategy of change. This is not mere navel-gazing, for the sampling strategy used in this survey (discussed later in this chapter) ensures that a wide range of stakeholders is involved, thereby gaining multiple perspectives on the problems, practices and recommendations. Situations are viewed through many lenses.

The attention to teachers' feelings is deliberate as it is designed to enhance their professional self-esteem and to address the 'person-centredness' of change, both of which were advocated in chapter 2. This echoes the issues raised in chapter two, of having to take seriously: (a) the issues of the management of change as concerning the understanding and management of perception (Fullan, 1991; Morrison, 1998); (b) the psychological dimension of change, for example: motivation, self-esteem, self-actualisation, the search for homeostasis in a time of disequilibrium, and threat. Further, the ethics of the research (discussed later in this chapter) indicates that the research should be 'beneficent', i.e. that it should enhance the circumstances of participants (Cohen and Manion, 1994) (of course, taking care to avoid building in bias into the research design by have a substantive change agenda in the research itself). Involving them, taking their views seriously, and striving to build their professional self-esteem through recognising the importance of their views, are ways of addressing these issues.

Section five (six main subsections): concerns INSET, the section deals with teachers' patterns of perceptions, attitudes and preferences toward INSET. It is composed of fifty Likert scale items, particularly designed to measure INSET preferences, opinion of teachers, for the purpose of further analysis, the fifty items are grouped into the following:

- Purposes of INSET;
- Content of INSET;
- Organisation of INSET;
- Presentation of INSET;
- Nature of participants' involvement;
- Effects on practice;
- Effects on student performance.

These are largely practical matters, again building in the professional involvement of all participants and ensuring that support for change through INSET is differentiated, responsive to need, tailored to individual and local circumstances, in short that it will be carefully targeted, needs-driven and able to match needs and specific circumstances. This puts into practice the views of Dalin *et al* (1993) and Morrison

(1998) that change and support for change cannot be managed by blanket diktats but that the change is also an individual and interpersonal matter.

The questionnaire inevitably was lengthy, given its scope, with over 66 sections/items and some 130 specific requests for information/responses. The full questionnaire is reproduced in Appendix 1, both in its original English form and in the translated Arabic version.

Issues in questionnaire design

Though extensive use was made of documents and literature, the decision was taken to use a survey as the sole means of empirical data collection from participants. The later section concerns issues of reliability and validity; here a justification is made to use a single-instrument approach to the field work. It is recognised that, under different circumstances from this thesis, this might compromise the opportunity for triangulation afforded by a multi-instrument approach or approaches which repeatedly employ the same instrument over time, issues of practicability determined, to some extent, the decision to opt for a single questionnaire. However, within this there were several types of triangulation (Cohen and Manion, 1994), for example: perspectives, people, geographical location. The later sections chart the considerable attempts that were made to address comprehensiveness, reliability and validity, themselves elements of triangulation. It was deemed wiser to use a single, long instrument rather than several shorter (or indeed long) instruments, as this would obtain maximum data from respondents without undue interruption to their busy schedules.

Beyond issues of practicability, however, the very *positive* reason to adopt a single-instrument approach was that it was unnecessary to have a multi-instrument approach for the type, range and scope of the data being sought, i.e. that 'fitness for purpose' was being demonstrated in the decision to opt for a large-scale survey. *Only* a single instrument was required. Indeed the closing chapter of the thesis makes the argument for a further range of instruments to be used, but is careful to qualify this, arguing that these would yield data for a separate, subsequent thesis.

The survey is a favourite of many in the field of social research where social surveys are regularly conducted to gather information on many aspects of a community (McClean and Wilson, 1994: 3). In this case it is being used as an essential ingredient in needs analysis, that chapter 2 identified as a major component in effecting

successful change. The needs analysis, it was argued, would identify: (a) the size and scope of the needs; (b) the contents and priorities to be addressed and the organisation and resources likely to be required to address the needs; (c) the significant participants in meeting the needs; (d) the urgency of meeting the needs; (e) the number of participants who are likely to be affected in meeting the needs and who are likely to be affected if the needs are not met; (f) the consequences of failing to address the real needs. These factors require not only a comprehensive indication of needs but some measure - quantification - of the size of each issue. Hence the survey questionnaire included numerical data.

Lovell and Lawson (1970) state that 'questionnaires are widely used to obtain facts about current conditions and practices and to make enquiries concerning attitudes and opinions' (p.85). The descriptive survey method is chosen for this study because it allows for the use of a questionnaire to observe the current status of teachers' concern their work and the possible ways to improve their effectiveness. The questionnaire is perhaps the most popular of all the data collection instruments employed in statistical work. It offers one of the simplest ways of gathering information; whether the information is relevant to the investigation is a separate issue! (McClean and Wilson, 1994: 7).

The advantages and disadvantages of questionnaires are explained by Ary *et al* (1990). The advantages include:

- It is possible to cover a great number of subjects as well as to reach people in more diverse locations than is practical with the interview.
- Questionnaires that can guarantee confidentiality and anonymity may elicit more truthful responses than would be obtained with a personal interview.
- The interviewer, whose personal appearance, mood or conduct may influence the results of an interview need not be present when the questionnaire is completed so that these (e.g. fear from interview and face-to-face contact) potential problems are avoided, i.e. the problems of reactivity are reduced.
- The generation of numerical data for statistical analysis as well as verbal data for content analysis.

The disadvantages of the questionnaire (ibid.) are:

- The possibility of misinterpretation of the questions by the respondents.
- It is difficult to formulate a series of questions whose meanings are to be crystal-clear to every reader.
- The investigator may know exactly what is meant by a question, but because of poor wording or different meanings of terms a significantly different interpretation is made by the respondent.
- Large segments of the population may not be able to read and respond to a mailed questionnaire.
- Only people with considerable education may be able to complete a very complex questionnaire.
- Poor response rate in postal questionnaires affects reliability.
- Falsifiability of responses (deliberate or not).
- Length - if the questionnaire is too long respondents may be discouraged from completing it attentively. It is worth mentioning here that because questionnaires were long, the researcher overcame this problem through asking the respondents to complete the questionnaires in their own time, without a time limit.

McClean and Wilson (1994) also cited the advantages and disadvantages of using the questionnaire as an instrument for collecting data. The advantages are that it:

- provides a useful method of obtaining information in a structured format;
- can be administered without the direct support of an interviewer;
- has a design process that assists in identifying associated analysis stages (question responses are often sought in a particular format to facilitate pre-determined analysis techniques).

The disadvantages are that it:

- requires a lot of time to design and develop;
- limits the scope of questioning;
- suffers from the 'form filling' syndrome, especially if administered via post;

- has limited flexibility in terms of response format (although this is frequently an advantage),

When the time is limited for conducting a study, Cohen and Manion (1994) claimed that at first sight it might be seen that the questionnaire technique is a particularly quick method of conducting a study, as compared, for example, with an observational study. As the researcher had limited time to spend on the study, yet still required a reasonably large amount of data to achieve successful completion of the research, it is partly for this reason that this study used the questionnaire technique, in order to obtain adequate information within the time limit. Moser and Kalton (1971) state that a questionnaire takes little time to send out and even the bulk of the returns can be received in a short time. It should also be mentioned that another reason for the use of the questionnaire in this study is the large number of subjects. Using other methods, such as observation, would be impractical, as it would be impossible to reach such a large sample using this method. Other disadvantages for using observational methods of research (cited by McClean and Wilson, 1994: 4) are:

- there may be prejudices in the observer;
- there may be observer interference in the observation process e.g. presence, privacy issues and disturbance behaviour within the observed;
- it may be expensive in terms of skills (to observe appropriately), time and possibly travel.

In designing the questionnaire, guidance was sought from the work of several authors, including Nixon (1954), Payne (1951), McClean and Wilson (1994), Lovell and Lawson (1970), Morrison (1993) and Babbie (1983). Cohen, Manion, and Morrison, (forthcoming) in their guidelines on how to construct a questionnaire, listed 25 principles which need to be considered in the design of a questionnaire (see Appendix 2). Nixon (1954) suggested to keep the directions as brief as possible, and to provide for the mere checking (ticking) of a possible answer already present on the form, rather than requiring a written answer (Nixon, 1954: 481). This can be seen as beneficial from both the point of view of the researcher and the respondent. The ticking of answers which are already present makes responses quick to enter and analysis of the data less complex for the researcher. For the respondents, they may be

more willing to answer questions which are in this format rather than requiring a written answer, so encouraging a higher response rate.

The researcher modified this advice slightly, by asking respondent to add their own comments on some questions, particularly in the pilot questionnaire. In this way, it was hoped that respondents would feel more fully involved, and express their opinions more freely, and could add information important to the researcher in the development of the final instrument to be used. The advantages and disadvantages of *closed format* questions are pointed out by McClean and Wilson (1994). The advantages are that they are:

- quick to answer;
- easier to code;
- show no discrimination based on the articulate and inarticulate responses.

The disadvantages are that they:

- can create misleading impressions due to their limited range of options;
- have limited capability to handle qualifications to responses (McClean and Wilson, 1994: 21)

Oppenheim (1966) and Morrison (1993) stated further issues in using closed format questions, including, for example:

- the problem of the inherent ambiguity of words (respondents may interpret the words in ways that were not envisaged by the questionnaire writer, and there is no way of checking this in an anonymous questionnaire);
- the complexity of the matters being discussed cannot be reflected straightforwardly in the questionnaire item;
- the 'stem' of the question might frame the nature of the response;
- the preclusion of the opportunities for further comment;
- the risk of not having a category that incorporates what the respondent wants to say;
- the central tendency of participants in responding to rating scales (not wishing to be seen as extremists!);

Thus, the chief disadvantage of the closed form is loss of openness and expressiveness on the part of the respondents, is to some extent, counteracted. Long and complicated

items were avoided (Babbie, 1983). Another concern of the questionnaire designer was to make sure that all questions were relevant, related to one another, and important to the respondent, and that all respondents interpreted the questions in the same way. In brief, clarity should be present throughout the questionnaire. In an attempt to achieve clarity the designer tried to avoid ambiguity and to ask only one thing at a time in a question. The designer also wished to ensure the relevance of the questions asked in relation to the teaching profession; this was tested in the questionnaire content by conducting a pilot study.

A covering letter also explained fully the requirements. Attached to the questionnaire should be a brief statement (covering letter) which is aimed at explaining the purpose of the study and its importance and assuring the respondents of the confidentiality of their answers. It is also intended to motivate them to answer all the questions and to thank them in anticipation of their co-operation. McClean and Wilson (1994) stated that:

frequently postal surveys include a covering letter which explains the purpose of the questionnaire and of the research; it can also be used to give an assurance regarding the confidentiality of the data provided. This approach *may* be used in preference to *general instructions* at the commencement of the questionnaire document (McClean and Wilson, 1994:34).

The introductory statement or the covering letter (as some authors prefer to call it) is important Mouly (1978):

The covering letter is also of crucial importance to success, since the investigator must depend on the printed words to sell his study. A good letter must be brief, courteous and forceful in pointing out the significance of the study and importance of the individual's participation (Mouly, 1978: 193).

So, the covering letter of the questionnaire used in this study includes all the necessary points implied in the above quotations, including the name and status of the researcher (see appendix 1).

Pilot study

A pilot study was carried out before the final version of the questionnaire was prepared, as a check for the validity and reliability of the instrument to be used in this study. Ary *et al* (1990) explained the benefit of a pilot study:

Before the research plan is prepared it may be helpful to try out the proposed procedures on a few subjects. This trial run or pilot study will first of all help the researcher to decide whether the study is feasible and whether it is worthwhile to continue. It provides an opportunity to assess the appropriateness and practicality of the data collection instruments. The pilot study will also demonstrate the adequacy of the research procedures and the measures that have been selected for the variables. Unanticipated problems that appear may be solved at this stage, thereby saving time and effort later. A pilot study is well worth the time required and is especially recommended for the beginning researcher (Ary *et al.*, 1990: 109).

One hundred teachers forming a representative sample from the target population were piloted in this study.

McClean and Wilson (1994: 47) in their guidelines for pilot testing suggest that pilot testing should focus on *all* aspects of the questionnaire design: its overall appearance; the covering letter (if one is used); the instructions; the questions and their layout; time taken to complete. The main objective of the piloting in this study to check the following points:

1. To check whether the questionnaire items were suitable in terms of appropriacy, clarity, understanding, type (e.g. rating scales) and to see whether the instructions for the questionnaire were clear enough.
2. To check whether there are any difficulties in understanding the Arabic text.
3. To check the time taken to complete the questionnaire.
4. To assess any difficulties and ambiguities that might arise from the wording of the questions.
5. To see whether, by looking at the answers, these questions covered what they were supposed to cover. If they do not then appropriate changes to be made in the final questionnaire.

Respondents were asked to comment on: (a) the clarity of the questions; (b) the length of the questionnaire; (c) the time taken to complete the questionnaire; (d) the comprehensiveness of the questionnaire; (e) improvements that could be made to the questionnaire. There were also some numerical responses to the first four items, thus:

- (i) How clear were the questions?: very clear - 24%; clear - 64%; vague - 12%;
- (ii) How did you find the length of the questionnaire?: too long - 28%; long - 43%; short - 29%;
- (iii) How long did the questionnaire take you to complete?: - 30 minutes or less - 2%; 30 - 60 minutes - 67%; 60 minutes and over- 31%;
- (iv) How comprehensive was the questionnaire?: very comprehensive - 58%; comprehensive - 34%; not comprehensive- 8%.

As a result of the pilot study: (a) the phraseology of some items was altered to make them clearer (particularly in their translation); (b) duplication and possible overlaps were avoided; (c) instructions for completion were refined; (d) problems of administration and explanation were identified and overcome; (e) the comprehensiveness of the items and the response categories was assured; (f) information on timing was obtained so that the questionnaire administrators would have a clear indication of notional time requirements; (g) some new items were included and some extensions were made to the items. In short, the pilot study was able to refine the questionnaire through feedback.

Population and sampling

Borg and Gall (1983) defined the sample and population thus:

sampling means selecting a given number of subjects from a defined population as representative of that population. One type of population distinguished by education researchers is called the target population, also called the universe, by which we mean all the members of a real or hypothetical set of people, events or objects to which we wish to generalise the results of our research (Borg and Gall, 1983: 240).

Sampling involves choosing a part of a population which is as far as possible, representative of that population (Cohen and Manion, 1994). Morrison (1993) identifies three key elements of sampling: (i) the representativeness and parameters of

the sample; (ii) the sample size; (iii) the access to the sample. The chapter will not explore the range of kinds of sample that are available to the researcher, nor to the principles underpinning different kinds of sampling strategy. Rather, this chapter will outline and justify the sampling strategy utilised in this study, indicating how it was the most effective in comparison to other sampling strategies.

With reference to the representativeness of the sample, it was necessary to ensure that the full *range* of participants/stakeholders in INSET was included in the sample as: (a) the research was designed to ensure generalizability, patterning of responses, identification of common and discrepant findings; variability of responses according to participants' characteristics; (b) the research was designed to be inclusive in an attempt to address the person-centredness of managing change; (c) it was recognised that there were several 'players' in the INSET drama - providers of INSET, inspectors, teachers, school principals, education officers; the questionnaire was designed to enable each of these participant to identify themselves in the nominal variables in the first part of the questionnaire; (d) that it was important to catch the full range of perceptions as this was an essential element in 'mapping the field' in this research - which was a deliberately exploratory study that was designed to map the field. The desire for generalizability led the researcher to opt for a probability sample (Morrison, 1993: 115; Cohen and Manion, 1994: 87) as randomisation and comprehensive inclusion are key elements of generalizability.

Essentially a *staged probability random stratified sample* was used. This requires explanation and justification! Given that there were several stakeholders involved, the decision was taken to opt for a stratified sample (ibid.). Here the 'strata' used in the sampling frame were characteristics of the wider population, location, and stakeholder groups. A staged sample (Morrison, 1993: 121; Cohen and Manion, 1994: 88; Cohen and Holliday, 1996: 103) is where sampling is progressive; a general sample is selected, and then from within this another sample is selected; from within this sample another sample is selected, and so on.

In the research here a representative *region* was the first stage. The Northern waste (Tripoli) area was selected by the writer because it can give a clear picture of the Libyan system of education. This area was selected in view of its position, which covers both rural and urban areas, largest number of population in the country, and has a large number of local education authorities, large number of basic and secondary

education schools and large number of teachers. The education system in Libya is wholly centralised and identical (even to the level of texts) right across the country, therefore any information collected in the targeted area will be highly generalisable to the rest of the country. It is clear, that, in this stage, the criteria of inclusion, stratification and representativeness have all been addressed.

Within this region the next stage was to identify one Local Education Authority (LEA). From within the LEA the next stage was to identify and select a random sample of basic and secondary schools, together with INSET providers, inspectors, administrators, university tutors. This coverage of parties would ensure that the views gathered were inclusive, representative and complete/comprehensive. The final stage was to randomly select a group of teachers from the basic and secondary schools that, themselves had been randomly selected from a randomly selected LEA. Here the population of the study consists of basic and secondary education school teachers in the location of the Northern waste area in Libya. By doing this the principle features of the large-scale survey approach (see also Moser and Kalton, 1971; Oppenheim, 1992) were retained - generalizability, comprehensiveness, inclusion, identification and coverage of the parameters of the field (e.g. stakeholders), and representativeness.

The decision to opt for a random stratified staged sample itself does not guarantee representativeness and generalizability, for the issue of *sample size* is also important - too small a sample and attempts at coverage and representativeness, the avoidance of bias and skewness, and generalizability (an essential feature in this study that attempts to 'map the field') are thwarted. An appropriate sample size was necessary to avoid Type I and Type II errors, rejecting the null hypothesis when it is in fact true, and accepting the null hypothesis with it is in fact false respectively. Hence attention had to be given to sample size.

In attending to this, the formula devised by Krejcie and Morgan (1970) was used. The attractions of this formula are that the authors recognise that: (a) the smaller the number of cases there are in the wider population, the greater must be the proportional size of the sample; (b) that the larger the wider population is, the smaller the proportional size of the sample needs to be; (c) 'as the population increases the sample size increases at a diminishing rate' (Krejcie and Morgan, 1970: 610). The authors recognise, therefore that sample proportions are not a constant but is fluid; this is useful in that it recognises that sensitivity and differentiation can be built into

sampling - both essential features of the management of change and of the sampling strategy sought to do justice to that feature of change.

In addressing sample size, then details of the population size were sought; where these were available they are included in figure 4.1. Taking account of these, then, the sample sizes selected were:

	Numbers in Libya	Numbers in the sample
Numbers of basic schools	6494	524
Numbers of secondary schools	1047	472
Teachers in basic schools	134393	524
Teachers in secondary schools	26167	413
Head teachers	7541	16
Deputy head teachers	7541	14
Inspectors		67
University tutors		7
Administrators in educational institutions		22
Secretary officers		37
Others		

Figure 4.1 Sample size

Using the formula from Krejcie and Morgan for sample size, it can be seen that the sample size of basic schools, secondary schools, teachers in basic schools, and teachers in secondary schools are so large as to be generalizable to the wider population (the maximum sample size that they give of 384 generalises to a wider population of 1,000,000 in their formula). Though the sample size of the remainder either does not generalise to the population size, or the size of the wider population is unknown, this does not present an insuperable problem for generalizability, because, as was mentioned earlier in this chapter, the stratified sampling strategy employed has been deliberately designed to ensure a representative sample of the main people involved in INSET. The decision of whose these would be (set out earlier) was taken on the criterion of comprehensiveness of coverage. Further, given the comments earlier about the replicability of each part of the system over the whole system, i.e. that

the system is the same throughout Libya (the issue of self-similarity where each part is a complete microcosm of the whole (Gleick, 1987)), one can have a high confidence level that the sample here can be generalised to the whole of Libya. Further, given that the major focus of the survey is deliberately on the teachers, randomisation and generalizability in Krejcie's and Morgan's terms have been achieved more than comfortably.

Reliability and validity

As with the discussion of sampling, the intention here is not to provide a treatise on reliability and validity, but to outline and justify the forms of reliability and validity adopted here.

Reliability

The view of reliability adopted here was reliability as consistency, dependability and adequacy of coverage (Lincoln and Guba, 1985, Morrison, 1993). To ensure that the research demonstrated these forms of reliability it was essential to ensure that the sampling strategy was appropriate, so that claims beyond the bounds of the data to support would not be made. This strategy was defined above; by ensuring coverage, representativeness and inclusion, the range of respondents was seen to ensure a degree of reliability to the data. However, reliability has to move beyond that to the reliability of the data rather than the respondents. The discussions of the questionnaire above indicate the possibilities of bias, falsifiability, selectivity and threats to the confidence that can be placed in the data. Whilst this can never be removed entirely (Morrison, 1993; Cohen and Manion, 1994), it can be attenuated by ensuring as complete a return as possible to the questionnaires, multiple instruments for data collection (akin to concurrent validity), piloting and a declaration in the data analysis of the parameters of generalizability (see chapter five).

The research ensured as complete a return as possible by: (a) programming the completion of the questionnaires so that they would be returned within as short a time scale as possible; (b) providing contact persons and numbers for respondents to contact if they were encountering difficulties in completing the questionnaire; (c) having the researcher and prepared assistants close to hand to introduce the questionnaire and its significance, explain matters and answer questions about the questionnaire and its completion; (d) having a letter from the People's Committee for

Education and Scientific Research giving permission for the research to be undertaken and requesting honest participation by all those approached; (e) having the researcher follow up on questionnaire respondents who had not returned their questionnaires by a particular stated time. In the event the return rate was over 84.6%, enabling considerable confidence to be placed in the results.

This research used one principal instrument for the empirical research - the survey questionnaire. It did not use other instruments for collecting 'live' data, though it used the literature on Libya as supplementary and contextual information (see chapter 3). In this respect the research may be less reliable than if more than one instrument had been used. To try to reduce this, the researcher decided to go for completeness and coverage in the questionnaire, even though this recognised that the results would be in a quite lengthy questionnaire. The researcher has to balance the pressures of (a) lengthy completion against the possibilities of poor quality, limited data (Cohen and Manion, 1994), or (b) the time taken to utilise several research instruments (and hence added reliability) against the loss of reliability in using a single, shorter-time instrument; it is a trade-off! On balance it was decided that, because of time constraints on both the researcher and the respondents, a fuller, longer, comparatively time-consuming single questionnaire was more suitable than a shorter questionnaire used in combination with several other instruments.

The length of the questionnaire might also undermine its reliability, for example section 5 sets out close to 70 rating scale statements; the result here could be that respondents simply go through them at speed, giving the identical response to each item once they have decided what their initial responses will be (Morrison, 1993). This problem is exacerbated in the research in that the closing sections of the questionnaire are more speculative - a 'wish list' - that might enable the respondents to wish for everything as they would have nothing to lose.

Here the way in which the questionnaire was introduced was seen to be critical, for the introduction by the person present when the questionnaires were being completed made much of the significance of the research, the need for honesty, the need to think carefully about the issues, in short to appeal to the professional judgement and behaviour of the participants. The introductions of the questionnaire in situ made it clear that it would be entirely helpful for the questionnaire to be completed fully and honestly rather than being rushed, incomplete and with ill-considered data being

hastily entered. The point was made that the results of the questionnaire would inform directly policy and decision making, i.e. that they would be the beneficiaries of the results, so that it would be against their own interests not to provide carefully considered data.

Validity

Reliability on its own is a necessary but insufficient condition for validity in research (Lincoln and Guba, 1985). In particular, reliability is akin to *concurrent validity*, where data are gathered by using more than one instrument, and the degrees of consistency across data and across instruments are calculated (e.g. by correlational analysis). As mentioned above, a deliberate decision was taken, within the time constraints, not to opt for a multi-instrumental approach to empirical data collection. (Chapter 7 indicates that this could be a possible avenue for further research in the future).

Internal validity (Campbell and Stanley, 1963) is demonstrated when an interpretation or explanation is actually supported by the data. In this study internal validity is addressed by careful sampling (to ensure that all major stakeholders are included) and by appropriate data analysis and interpretation (chapters 5 and 6 respectively, where care is taken to clarify the parameters of the data, to use appropriate statistics for nominal and ordinal - non-parametric - data, and to draw attention to the boundaries of legitimate inference). Internal validity concerns the accuracy of the data, and the discussion of reliability above indicates how this was addressed.

External validity, on the other hand, concerns the extent to which the results are generalizable. This is a direct function of the sampling strategy employed. In this study this was addressed in the careful attention to: (a) the sampling of relevant people and variables; (b) representativeness; (c) comprehensiveness and inclusion; (d) sample size. The deliberate decision to go for a staged probability random stratified sample was an attempt to secure generalizability in the research. The possible threats to external validity posed by characteristics of the sample and their local circumstances was accounted for in the first section of the questionnaire where specific nominal variables were addressed, so that subsequent data analysis could ascertain the degree of variation according to the nominal characteristics specified in that section (see chapter 5).

Campbell and Stanley (1963), Lewis-Beck (1993) and Cohen, Manion and Morrison (forthcoming) identify several threats to external validity;

- failure to describe independent and dependent variables explicitly. In this research the opening section of the questionnaire explicitly identified perceived significant nominal characteristics of the sample, and the construction of the issues in the subsequent sections addressed construct validity (discussed below) through being rooted in the literature on change and INSET (from chapter two) and being subject to piloting and jury validity (the items being reviewed by experts in the field);
- lack of representativeness of available and target populations. The sampling strategy employed sought to overcome this problem (discussed above);
- the Hawthorne effect and reactivity. The deliberate use of a single, 'one-off', short-term, comparatively unobtrusive instrument was designed to reduce the problem of the reactivity and the Hawthorne effect (Lincoln and Guba, 1985);
- the interaction effects of extraneous variables. The comprehensiveness of the survey questionnaire, coupled with the fact that it was a single-occasion data collection process, was designed to include the range of possible variables so that their interaction effects could be minimised; also, the piloting and jury validity were seen as contributory elements in minimising this;
- unreliability of instruments. The piloting and subjecting of the questionnaire to experts was designed to ensure that the instrumentation was reliable.

It can be seen then that this research, designed to have generalizability and external validity as a central purpose, addressed the tenets of external validity outlined above. External and internal validity are also demonstrated if the research instrumentation demonstrates *content validity*. For content validity to be addressed the instrument must show that it comprehensively and fairly covers the issues and domains that it purports to cover (Cohen, Manion and Morrison, forthcoming). The twin notions of comprehensiveness and fairness require that the instrument catches the breadth and

depth of an issue and that it fairly reflects the central features of the issue and (if space and size permit) the more peripheral features. In this research content validity was addressed by:

- rooting the empirical research in a thorough analysis of the Libyan situation (chapter 3), i.e. contextualizing the research in the Libyan context;
- undertaking an analysis of the Libyan context, not only as a context for the questionnaire but *per se* to reveal issues in the management of effective change in Libya (discussed in chapters 3 and 7);
- ensuring that a key feature of successful change of change and INSET (their person-centredness) was addressed in the sampling for the questionnaire;
- ensuring that the key elements of change and INSET were addressed in the contents of the questionnaire; these derive from a comprehensive literature search in chapter 2 and 3;
- piloting and refining the questionnaire and subjecting it to jury validity.

Content validity also relies on *construct validity*, for without the latter the former is meaningless. Indeed construct validity is perhaps the most rigorous form of validity (Cohen, Manion and Morrison, forthcoming), for it requires the research to demonstrate that the constructions of change and INSET that have been used accord with generally accepted constructions of those issues. This was addressed by: (a) ensuring that the questionnaire items derived from the comprehensive literature search and the analysis of the Libyan section (chapters 2 and 3 respectively); (b) that the questionnaire was piloted: (c) that the questionnaire was submitted to experts for jury validity. Like many constructs, the constructs of change and INSET are abstracts, capable of different interpretations; we have indicators of their *nature* only rather than exact knowledge of them. The task of the researcher seeking to demonstrate construct validity is to ensure that the range of literature and the debates in the literature are addressed, that the manifestations of the constructs (in the questionnaire) accord with accepted constructions of the issues. This research has attempted to demonstrate construct validity by working with tested and agreed constructions of the issues - with the literature and experts in the field.

Ethics and permission

There are several ethical dilemmas for researchers. As with previous sections of this chapter, this chapter will not indicate the spectrum of different conceptions of ethics; rather it will outline and justify the ethical decisions taken in this study. A central ethical principle in research is that it should not place participants at risk or cause them harm (the twin issues of 'fiduciary trust' - trusting the researcher not to place the safety participants in jeopardy - and non-maleficence - not occasioning any harm to the participants). There were three main safeguards here.

Firstly, a central feature of this study was the gaining of *informed consent* of the participants. They were given the information about the study - its purposes, nature, content, audiences, reporting etc. - and they were given the option not to participate if they did not wish. The features of the research were presented honestly and unselectively.

Secondly, there were guarantees of anonymity and confidentiality in the research. This was addressed in two main ways: (a) by asking for names *not* to be written on returned questionnaires, so that people might not be identifiable; (b) by aggregating data in the data analysis, so that individual responses would not be traceable and would not be recorded. This respects the individual's privacy in social research (Cohen and Manion, 1994: 360). Further, it is intended that the raw data on individual questionnaires will be destroyed following completion of the thesis, so that people are not traceable (ibid.: 358).

Thirdly, the researcher had to secure permission from the People's Committee for Education and Scientific Research to conduct the research, and this permission (in writing) had to be passed on to the sample. Such permission, of course, is only given after appropriate scrutiny. Not only did the researcher have to obtain permission from the People's Committee for Education and Scientific Research to conduct the research, but permission had to be obtained to approach the schools and the sample. Again, such - secured - permission was contingent on providing information on the nature, purpose, contents, audience and reporting of the research. Related to this issue is that of abiding by agreed and required protocols in conducting research (e.g. for securing access, ibid.: 375).

Underpinning the issues of fiduciary trust and non-maleficence is the notion that human research, unlike research in the physical sciences, has to take account of the

humanity of the participants. This entails treating them as responsible and autonomous subjects rather than as passive objects that yield research data whether they wish it or not (c.f. Cohen and Manion, 1994; Morrison, 1996). This, of course, resonates with an overriding message in the management of change and INSET - that it has to take people seriously (Morrison, 1998).

It is often not enough simply to require non-maleficence; there is also the corollary of this issue - that the research must demonstrate 'beneficence' - bringing advantages and benefits to the participants (related to *catalytic validity* - the ability of the research to effect changes). In this respect the researcher was able to indicate to participants that the research was designed to improve INSET for effective change and to make improvements in the education service, i.e. that there were to be positive outcomes to the research (rather than, for example, a culture of blame). Indeed, as was noted earlier, it was this feature that was appealed to with participants, it was persuasive in gaining their participation, building on their professional commitment, itself a central feature of effective change.

A further issue in conducting research ethically is that of methodological rigour (Morrison, 1996: 80). Morrison argues that we owe it to respondents to gather, analyse and present valid data appropriately, unselectively, reliably, with due care to sampling, representativeness and careful limits put on the conclusions drawn.

This chapter has indicated how the research was conducted rigorously. Subsequent chapters will indicate that rigour moving into the domains of data analysis and interpretation (chapters 5 and 6 respectively). What is being argued here is that this research abides by ethical practice, it is principled.

CHAPTER

5

DATA PRESENTATION AND ANALYSES

Introduction

This chapter presents and analyses the data which were gathered from the survey sample concerning the following main purposes to:

1. Identify relationships between biographical and professional information and views about INSET providing a descriptive breakdown of characteristics of the sample.
2. Identify what teachers consider to be the difficulties that they are experiencing in their work;
3. Examine what teachers do currently to improve or attempt to improve their effectiveness;
4. Examine what teachers feel might need to be done if their part in the education system is to improve;
5. Identify the role of INSET in meeting teachers individual and the system's needs for greater effectiveness in a time of change;
6. Examine the perceptions, opinions and preferences of teachers toward INSET in Libya;
7. Examine how INSET can be most effectively managed to improve education in Libya.

The Statistical Package for the Social Sciences (SPSS) was used to process the data. There are various types of descriptive and inferential statistics with parametric and non parametric tests. Appropriate statistical tests for non-parametric data have been selected to analyse data, which derived from nominal and ordinal variables. Siegel (1956: 31) notes that 'most nonparametric tests apply to data in an ordinal scale, and

some apply also to data in a nominal scale'. Cohen and Halliday (1979) pointed out the advantages of a nonparametric test as follows:

- it is easy and quick to apply.
- it is concerned with rank ordering rather than numerical data or observation.
- it can be used with nominal and ordinal data.

Siegel (1956: 33) also argues that care must be taken to match ordinal data with non-parametric tests.

Frequencies and percentages, as the most important analyses in this research, are used in analysing the data to survey/set the priorities and to give a description and distribution of the whole sample. The researcher used the chi-square statistic for cross-tabulated data (specifically nominal data cross-tabulated with ordinal data). The Mann-Whitney (M-W) U Test of significance was also used to complement the chi-square statistics, to measure statistical significance of the distribution of data for two variables (Borg and Gall, 1983: 561), and the Kruskal-Wallis (K-W) Test was used to complement the chi-square statistic and to verify any significant relationship between three or more nominal variables. Siegel (1956: 117) pointed out that 'it is the most powerful of the nonparametric tests and it is a most useful alternative to the parametric t-test when the researcher wishes to avoid the t-test's assumptions'.

The significance level will be reported, where appropriate, as: $p \leq 0.05$, $p \leq 0.01$, $p \leq 0.001$, $p = 0.0000$ for statistical significance, and $p > 0.05$ for statistical insignificance. The significance level of $p \leq 0.05$ is taken as a level suitable for rejection of the null hypothesis.

Most of the items were recoded, nominal and ordinal variables were aggregated where appropriate and presented both in the original form (tables 'a') and recoded form (tables 'b'). Reasons for recoding data are:

- a. Recoding the biographical details (nominal data) in order to identify *main clusters* in a way that is true to the original spread of data. The nominal variables in tables 5.2a-5.9a were recoded to tables 5.2b-5.9b in order;
- b. Recoding the frequencies of the Likert scale (ordinal data) in order to establish *priorities*. The ordinal variables in tables 5.11a, 5.13a, 5.14a were recoded to tables 5.11b, 5.13b, 5.14b respectively;

- c. Recoding data in order to be able to *make generalisations*. The ordinal variables in tables 5.11a, 5.13a, 5.14a were recoded to tables 5.11b, 5.13b, 5.14b respectively;
- d. Recoding data for the sake of *clarity*. The ordinal variables in tables 5.11a, 5.13a, 5.14a were recoded to tables 5.11b, 5.13b, 5.14b respectively;
- e. Recoding data to give added *power to the analysis*, for example, if the same features hold true (e.g. significance levels) across original and recoded data then we can have greater confidence in the results; variables in tables 5.19a-5.26a were recoded to tables 5.19b-5.26b respectively;
- f. Running the full range of statistics on recoded data in order to be able to 'push the analysis as far as it will go' and to be able to match the types of statistics run on the original data, i.e. if we recoded for *positive* reasons (not just negative reasons of low cell frequency - see below), then we ought to run the full range of statistics for these same positive reasons e.g. when we run crosstabs with the chi-square statistic the variables in tables 5.19a-5.26a were recoded to tables 5.19b-5.26b respectively. There is a problem with a crosstabs result when 20% and over of all the cells in the original crosstabs contains 5 or less cases, Bryman and Cramer (1992: 162) pointed out that the 'chi-square can be unreliable if expected cell frequencies are less than five' (see also Morrison (1993: 134));
- g. One could not anticipate the distributions at the time of devising the questionnaire (indeed that was the whole purpose of doing the questionnaire); the recoding has been undertaken as a *result* of looking at the distributions of the data collected. The nominal variables in tables 5.2a-5.9a were recoded to tables 5.2b-5.9b respectively and the ordinal variables in tables 5.11a, 5.13a, 5.14a were recoded to tables 5.11b, 5.13b, 5.14b respectively.

In an attempt to facilitate data analysis and follow the logical sequence that was built into the questionnaire design in the chapter on research methodology, the questionnaire items have been grouped so that items relating to the same broad areas of respondents and the items for analysis are presented in groups as follows:

Group 1: Biographical details (nominal data) of the sample;

Group 2: Difficulties teachers face in their work (ordinal data);

Group 3: Improving teachers' professional effectiveness at present (ordinal data);

Group 4: Improving teachers' professional effectiveness in future (ordinal data);

Group 5: a) Perceptions and opinions of INSET (ordinal data);

b) Preferences for attendance at INSET courses (ordinal data);

c) Preferences for types of INSET courses (ordinal data);

d) Preferences for the location of INSET courses (ordinal data);

e) Preferences for teaching styles in INSET courses (ordinal data).

The sequence of this chapter will be reported in sections 1-3 in order to reflect the priority of the issues and follows the sequence of data analyses as follows. The main purpose of the research was to survey/set the field, hence the point 1 below reflects this priority and the subsequent points 2-3 unpack this main purpose, giving it some specificity, sensitivity and differentiation, i.e. points 2-3 are subordinate to point 1.

1. Reporting the description and distribution of the sample and ordinal data using frequencies and percentages;
2. Reporting the significance of distributions/interactions of biographical details with views about professional effectiveness using the crosstabs/chi-square statistic;
3. Reporting the significance of distributions/interactions of biographical details with views about professional effectiveness, using the Mann-Whitney and Kruskal-Wallis tests;

Section One: Characteristics of the sample

It is worth mentioning that because the researcher administrated the questionnaire himself the response rate was 84.6%; this rate is considered to be very high, enabling the researcher to have confidence in the results. Morrison (1993: 79) pointed out that one has to 'be grateful if you receive a 50% response to the questionnaire' (see also Oppenheim (1992: 106). The data from the questionnaire provided further details of the sample, reported below.

Biographical details

Tables 5.1 to 5.10 provide the general statistical distribution (frequencies and percentages) of data about the biographical details (nominal data) of the sample. Recoding has been undertaken where appropriate in this group of nominal data (tables

‘b’) in order to identify main clusters of data in a way that is true to the original spread of these data.

Table 5.1 Distribution of the sample with regard to gender.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Gender	Male	392	35.6
	Female	708	64.4
Total		1100	100.0

Table 5.1 indicates that the high proportion of the sample (64.4%) are females and that the sample size is large, giving reliability to the subsequent data.

Table 5.2a Distribution of the sample with regard to age group.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Age Group	25 years or less	227	20.7
	26 - 30 years	447	40.7
	31 - 40 years	305	27.8
	41 - 50 years	73	6.6
	51 years and above	46	4.2
Total		1098	100.0

Table 5.2b Distribution of the sample with regard to age group.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Age Group	40 years or less	979	89.2
	41 years and above	119	10.8
Total		1098	100.0

It can be seen in table 5.2a that the vast majority of the sample (89.2%) is aged 40 years or less, this is shown more clearly in the recoded table 5.2b.

Table 5.3a Distribution of the sample with regard to job status.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Job Status	Teacher	937	85.2
	Deputy Head teacher	14	1.3
	Head teacher	16	1.5
	Administrator in Educational Institution	22	2.0
	Inspector	67	6.1
	University tutor	7	0.6
	Secretary officer	37	3.4
Total		1100	100.0

Table 5.3b Distribution of the sample with regard to job status.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Job Status	School staff (teacher, deputy H.T., head T., administrator)	989	89.9
	Non school staff (inspector, university tutor, secretary officer)	111	10.1
Total		1100	100.0

Table 5.3a shows that the vast majority of the sample (85.2%) were school teachers, and the recoded table 5.3b indicates that most of the sample were school staff (89.9%).

Table 5.4a Distribution of the sample with regard to experience in education.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Experience in education	5 years or less	431	39.2
	6-10 years	313	28.5
	11-20 years	235	21.4
	21 -30 years	83	7.6
	31 years and above	37	3.4
Total		1099	100.0

Table 5.4b Distribution of the sample with regard to experience in education.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Experience in education	20 years or less	979	89.1
	21 years and above	120	10.9
Total		1099	100.0

It can be observed in table 5.4a that the highest categories of the sample had less than 20 years experience, this is shown more clearly in the recoded table 5.4b. 89.1% of the sample had 20 years and less experience in education and 10.9% had above 20 years experience in education.

Table 5.5a Distribution of the sample with regard to highest qualification gained.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Highest qualification gained	General Teacher Training College Diploma	78	7.1
	Special Teacher Training College Diploma	383	34.9
	Technical Secondary Diploma	96	8.8
	First University Degree (BA/BSc)	519	47.3
	Higher Degree (Masters/PhD)	21	1.9
Total		1097	100.0

Table 5.5b Distribution of the sample with regard to highest qualification gained.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Highest qualification gained	Diploma (general/special teacher training, technical secondary)	557	50.6
	Degree (BA/BSc, Masters, PhD)	540	49.1
Total		1097	100.0

Table 5.5a shows that most of the sample had gained a first University Degree (47.3%); a Special Teacher Training College Diploma (34.9%); only 1.9% had a Higher Degree.

Table 5.5b indicates that almost 50% of the sample contained diploma holders and 50% were degree holders, i.e. an almost even spread.

Table 5.6a Distribution of the sample with regard to main teaching subject.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Main teaching subject	No data ◇	104	9.5
	Class teacher □	37	3.4
	Arabic Language	136	12.4
	Islamic Education	41	3.7
	Math	106	9.6
	Science	230	20.9
	Social Sciences	194	17.7
	English Language	76	6.9
	Computer Studies	2	0.2
	Technology	27	2.5
	Art	61	5.6
	Physical Education	41	3.7
	Do not teach	44	4.0
Total		1099	100.0

◇ Non-school staff

□ Teacher who teaches the early grade (class 1-4 normally aged 6-9 years)

Table 5.6b Distribution of the sample with regard to main teaching subject.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Main teaching subject	No data ◇	104	9.5
	Class teacher □	37	3.4
	Arabic language and Islamic education	177	16.1
	Science (math, nature science, computer, technology)	365	33.2
	Social Sciences	194	17.7
	English Language	76	6.9
	Art	61	5.6
	Physical Education	41	3.7
	Do not teach	44	4.0
Total		1099	100.0

◇ Non-school staff

□ Teacher who teaches the early grade (class 1-4 normally aged 6-9 years)

Table 5.6a shows that 9.5% of the sample (no data) comprised non-school staff, i.e. those who work out of the school. Also the highest number of responses were for science (20.9%), social sciences (17.7%), Arabic language (12.4%) and the rest of subjects have a lower representation, a spread of interests but low on IT and technology. This fairly represents the school time table allocations of subject priorities.

Regrouping under the main curriculum areas/disciplines and organisation was undertaken, in which it can be observed in the recoded table 5.6b that most of the sample covers the core curriculum subjects (67%) science (33.2%), social science (17.7%) and Arabic language and Islamic education (16.1%).

Table 5.7a Distribution of the sample with regard to type of institution in which teachers work.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Type of institution in which teachers work	No data ◇	104	9.5
	Basic Education School	524	47.6
	General Secondary School	381	34.6
	Technical Secondary School	63	5.7
	Teacher Training College	28	2.5
Total		1100	100.0

◇ Non-school staff

Table 5.7b Distribution of the sample with regard to type of institution in which teachers work.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Type of institution in which teachers work	No data ◇	104	9.5
	Basic Education School	524	47.6
	Secondary education school (general/technical/teacher training)	472	42.9
Total		1100	100.0

◇ Non-school staff

Table 5.7a shows that the highest proportion of the sample work in basic education schools (47.6%) and general secondary schools (34.6%), with a lower proportion working in technical secondary school (5.7%), teacher training college (2.5%), i.e. there is a spread of institutions which reflects the distribution of types/numbers of institutions in the Libyan education system, hence the sample represents well the spread and proportions of educational institutions in Libya.

Table 5.7b indicates that 47.6% of the sample are drawn from basic education schools and 42.9% from secondary education schools, a fairly even distribution.

Table 5.8a Distribution of the sample with regard to average number of students in the class(es) teachers taught.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Average number of students in the class(es) taught	No data ◇	104	9.5
	10 or less	17	1.5
	11 - 15	33	3.0
	16 - 20	118	10.7
	21 - 25	88	8.0
	26 - 30	245	22.3
	31 or over	443	40.3
	Do not teach	51	4.6
Total		1099	100.0

◇ Non-school staff

Table 5.8b Distribution of the sample with regard to average number of students in the class(es) teachers taught.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Average number of students in the class(es) taught	No data ◇	104	9.5
	25 or less	256	23.3
	26 or over	688	62.6
	Do not teach	51	4.6
Total		1099	100.0

◇ Non-school staff

Table 5.8a shows that the highest proportion of the sample teach classes of 31 or over (40.3%) and classes of 26-30 (22.3%), i.e. comparatively large numbers of teachers teach large classes of students. This is confirmed in table 5.8b, with class sizes of 25 students or less (23.3%) and of 26 students or over (62.6%). Those who work in school (school staff) but who do not teach comprise only 4.6% of the sample, i.e. a fair representation of the real situation in Libyan schools.

Table 5.9a Distribution of the sample with regard to main level of class(es) teachers taught in basic education.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Main level of class(es) taught in basic education	No data ◇	558	50.8
	First to Fourth	43	3.9
	Fifth to Sixth	48	4.4
	Seventh to Ninth	378	34.4
	Equally distributed □	33	3.0
	Do not teach	39	3.5
Total		1099	100.0

◇ Non-school staff

□ Teacher who teaches all grades (subject teacher)

Table 5.9b Distribution of the sample with regard to main level of class(es) teachers taught in basic education.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Main level of class(es) taught in basic education	No data ◇	558	50.8
	First to Sixth (first part of basic education), aged 6-12 years	91	8.3
	Seventh to Ninth (second part of basic education), aged 13-15	378	34.4
	Equally distributed □	33	3.0
	Do not teach	39	3.5
Total		1099	100.0

◇ Non-school staff

□ Teacher who teaches all grades (subject teacher)

Tables 5.9a/5.9b show that 50.8% of the sample (No data) comprised non-school staff, i.e. those who work out of the school, and who work in secondary education schools, also most of the sample taught the seventh to ninth grades (aged 13-15 years) (34.4%). Those who teach all grades (usually a subject teacher) comprised 3% and school staff who did not teach comprised 3.5% of the sample.

Table 5.10 Distribution of the sample with regard to location of the institution.

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>Percent</i>
Location of the institution	No data ◇	104	9.5
	Urban	659	60.0
	Rural	266	24.2
	Remote Area	69	6.3
Total		1098	100.0

◇ Non-school staff

Table 5.10 shows that a high proportion of the sample work in the urban area (60%), a lower proportion in the rural area (24.2%) and an even lower proportion in the remote area (6.3%) which is a fair reflection of the spread of the location of the population in Libya generally.

Summary of biographical details

The results suggest that (1) the majority of the sample are females, (2) the vast majority of the sample is aged 40 years and less, (3) the vast majority of the sample were school teachers, (4) the vast majority of the sample had 20 years and less experience, (5) there was an almost even distribution of the sample with regard to qualification (diploma and degree), (6) the majority of the sample covered the core

curriculum subjects, (7) there was a fairly even distribution as regards the institution (basic and secondary education), (8) the majority of the sample were teachers who teach large classes of students, (9) the majority of the sample worked in the urban area. Finally, the sample size is large and representative of key features of schools in Libya, giving reliability to the data.

Difficulties that teachers face in their work

In this group of items (ordinal data) respondents were asked to indicate what teachers consider to be the difficulties that they are experiencing in their work.

Table 5.11a (the original - unrecoded - data) displays the frequencies and percentages of responses in this group. Recoding has been undertaken in this group of Likert scale ordinal data (from a 5 point rating scale to a 3 point scale as it shown in table 5.11b), mainly to reveal priorities and therefore to be able to make generalisations, as well as for the sake of clarity.

Table 5.11a Distribution of frequencies for difficulties/problems teachers face in their work.

Variable	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
11. Adequate subject knowledge	482	43.9	344	31.3	50	4.6	109	9.9	113	10.3	1098
12. Rate of change and innovation in the curriculum	192	17.5	511	46.5	134	12.2	197	17.9	65	5.9	1099
13. Amount of change and innovation in the curriculum	165	15.2	473	43.6	190	17.5	187	17.2	71	6.5	1086
14. Preparation of teachers during their initial training courses	494	45.2	344	31.5	58	5.3	107	9.8	90	8.2	1093
15. Links between initial training and the curriculum in school	470	43.2	383	35.2	74	6.8	100	9.2	62	5.7	1089
16. Teacher-Inspector relationship	352	32.1	429	39.1	72	6.6	139	12.7	106	9.7	1098
17. Teaching techniques (methodology and pedagogy)	439	40.2	367	33.6	66	6.0	139	12.7	82	7.5	1093
18. Opportunities for continued professional development	494	45.0	374	34.1	82	7.5	96	8.7	52	4.7	1098
19. Individual differences between students in class	366	33.3	434	39.5	76	6.9	124	11.3	98	8.9	1098
20. Assessment and evaluation of students	344	31.4	403	36.7	86	7.8	156	14.2	108	9.8	1097
21. Parents' co-operation with teachers and the school	603	55.1	267	24.4	46	4.2	92	8.4	87	7.9	1095
22. Students' standards of achievement /performance	364	33.3	466	42.6	96	8.8	129	11.8	38	3.5	1093
23. Class size (number of students in class)	407	37.2	363	33.2	65	5.9	129	11.8	131	12.0	1095
24. Pupil-Pupil relationships	238	21.7	459	41.9	166	15.1	150	13.7	83	7.6	1096
25. Discipline in school/classroom	544	49.8	302	27.7	50	4.6	99	9.1	97	8.9	1092
26. School administration	500	45.7	340	31.1	68	6.2	99	9.0	88	8.0	1095
27. School building/premises	437	39.9	366	33.4	73	6.7	119	10.9	100	9.1	1095
28. Teaching resources/ facilities/ equipment available in school	432	39.6	345	31.6	94	8.6	99	9.1	121	11.1	1091
29. Non financial incentives/ rewards	506	46.2	296	27.0	75	6.8	112	10.2	106	9.7	1095
30. Financial incentives	444	40.4	309	28.1	96	8.7	111	10.1	138	12.6	1098
Overall % of total responses		37.8		34.6		7.8		11.4		8.4	

In table 5.11a it is useful, as an index of *degree* of agreement level (specificity and sensitivity) in this group of items to examine the distributions of the responses in the five categories ('strongly agree' to 'strongly disagree').

Modal scores

The modal scores in this group were distributed in the agreement levels ('strongly agree' and 'agree'). There are no items where the modal scores are in the 'undecided', 'disagree' and 'strongly disagree' categories. There are 13 items (65% of the 20 rating scale items) where the modal score is 'strongly agree' (items 11,14-15, 17-18, 21, 23, 25-30). These indicate a high agreement that these items-which cover a wide range of school aspects are considered as difficulties that teachers face in their work. There are

7 items (35% of the 20 rating scale items) where the modal score is 'agree' (items 12-13, 16, 19-20, 22, 24). These indicate a moderate agreement that these items cover difficulties that teachers experience in their work. Overall, it can be observed that the respondents demonstrate strong and moderate levels of agreement, the level of agreement indicates that all items were considered to be difficulties that teachers experience in their work.

In addition to examination of the modal scores, to provide specificity and sensitivity of the results achieved from the data, it is worthwhile to examine the responses for each rating scale category ('strongly agree' to 'strongly disagree') are presented as follows:

Strongly agree

Responses in this category were the highest in this group, where 37.8% of the total responses in this group were scored and quite widespread (there was a difference of 40 percentage points between the lowest score and the highest score here), this shows that there is some diversity within this category, though there were only two scores that registered below 20% (items 12 and 13); item 24 scored 21.7%; 7 responses (35% of the total responses in this category) were between 30% and 40% (items 16, 19-20, 22-23, 27-28); 9 responses (45% of the total responses in this category) were between 40% and 50% (items 11, 14-15, 17-18, 25-26, 29-30); item 21 scored 55.1%. The lowest rated item in this category was item 13 (15.2%) and the highest was item 21 (55.1%). These indicate that there is a high level of agreement across a wide range of items in this group with regard to difficulties that teachers experience in their work.

The modal *category*, therefore was of between 30% and 50% where 16 responses (80% of the total responses in this category) were scored. Hence the majority of respondents considered that most of the items in this group are problematic for teachers.

Agree

Responses in this category were scored at 34.6% of the total responses in this group and were quite narrowly spread (there was an almost 22 percentage points difference between the lowest score and the highest score here), this shows the homogeneity within this category, though there were 4 responses (20% of the total responses in this category) between 20% and 30% (items 21, 25, 29-30); 12 responses (60% of the total responses in this group) were between 30% and 40% (items 11, 14-20, 23, 26-28); 4

responses (20% of the total responses in this category) were between 40% and 50% (items 12-13, 22, 24). The lowest rated item in this category was item 21 (24.4%) and the highest was item 12 (46.5%). These indicate that there is a moderate level of agreement across a wide range of items in this group with regard to difficulties teachers face in their work.

Undecided

Responses in this category were very low, the lowest in this group (7.8% of the total responses in this group were scored), very few were 'undecided' and narrowly spread (there was an almost 13 percentage points difference between the lowest score and the highest score here), this shows the homogeneity within this category, though there were 17 responses (85% of the total responses in this category) registered below 10% (items 11, 14-23, 25-30); items 12-13, 24 contained the highest frequencies in this category (between 12.2% and 17.5%). The lowest rated item in this category was item 21 (4.2%) and the highest was item 13 (17.5%). These frequencies indicate that respondents were clear and decided in their views.

Disagree

Responses in this category were low (11.4% of the total responses in this group were scored), and very narrowly spread (there was a difference of less than 10 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category, though there were 8 responses (40% of the total responses in this category) registered below 10% (items 11, 14-15, 18, 21, 25-26, 28); 12 responses (60% of the total responses in this category) were between 10% and 17.9% (items 12-13, 16-17, 19-20, 22-24, 27, 29-30). The lowest rated item in this category was item 21 (8.4%) and the highest was item 12 (17.9%). These frequencies indicate the low level of disagreement in this group. It was clear that respondents disagreed only a little that this group of items included difficulties facing teachers in their work.

Strongly disagree

Typically the frequencies in this 'extreme' category were very low indeed (8.4% of the total responses in this group were scored), and very narrowly spread (there was a difference of almost 9 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category, though there were 16

responses (80% of the total responses in this category) registered below 10% (items 12-22, 24-27, 29); 4 responses (20% of the total responses in this category) were between 10% and 12.6% (items 11, 23, 28, 30). The lowest rated item in this category was item 22 (3.5%) and the highest was item 30 (12.6%). These show that the frequencies in this category were extremely low; 100% recorded 12.6% and less, also, indicate that only few respondents strongly disagreed that the items in this group are considered to be difficulties that teachers experience in their work.

In summary, table 5.11a shows the frequencies of responses in this group of ordinal data and four main features:

Firstly, the majority of respondents (37.8% of the total responses in the following group of items) strongly agreed and (34.6%) agreed that these items comprise difficulties that teachers face in their work. The items that registered these levels of agreement were: 11-30.

The modal score for all responses indicates total agreement that these items comprise difficulties that teachers experience in their work. The range of items is very wide, indicating that difficulties lie in many fields.

Secondly, given the low frequencies in the 'undecided' category, respondents were clear and decided in their views, very few (7.8%) were 'undecided' (this was the lowest category of the five in the rating scale). Thirdly, the minority of respondents (11.4% in this group of items) disagreed and 8.4% strongly disagreed that these items comprised difficulties that teachers experience in their work, hence for all the items in this group respondents were clear in their low level of disagreement. Finally, in most categories there was a homogeneity of distributions/ratings within each category in this group.

Table 5.11b Distribution of frequencies for difficulties/problems teachers face in their work.

<i>Variable</i>	Agree		Undecided		Disagree		Total 100%
	Freq.	%	Freq.	%	Freq.	%	
11. Adequate subject knowledge	826	75.2	50	4.6	222	20.2	1098
12. Rate of change and innovation in the curriculum	703	64.0	134	12.2	262	23.8	1099
13. Amount of change and innovation in the curriculum	638	58.8	190	17.5	258	23.7	1086
14. Preparation of teachers during their initial training courses	838	76.7	58	5.3	197	18.0	1093
15. Links between initial training and the curriculum in school	853	78.4	74	6.8	162	14.9	1089
16. Teacher-Inspector relationships	781	71.2	72	6.6	245	22.4	1098
17. Teaching techniques (methodology and pedagogy)	806	73.8	66	6.0	221	20.2	1093
18. Opportunities for continued professional development	868	79.1	82	7.5	148	13.4	1098
19. Individual differences between students in class	800	72.8	76	6.9	222	20.2	1098
20. Assessment and evaluation of students	747	68.1	86	7.8	264	24.0	1097
21. Parents' co-operation with teachers and the school	870	79.5	46	4.2	179	16.3	1095
22. Students' standards of achievement /performance	830	75.9	96	8.8	167	15.3	1093
23. Class size (number of students in class)	770	70.4	65	5.9	260	23.8	1095
24. Pupil-Pupil relationships	697	63.6	166	15.1	233	21.3	1096
25. Discipline in school/classroom	846	77.5	50	4.6	196	18.0	1092
26. School administration	840	76.8	68	6.2	187	17.0	1095
27. School building/premises	803	73.3	73	6.7	219	20.0	1095
28. Teaching resources/facilities/equipment available in school	777	71.2	94	8.6	220	20.2	1091
29. Non financial incentives/rewards	802	73.2	75	6.8	218	19.9	1095
30. Financial incentives	753	68.5	96	8.7	249	22.7	1098
Overall % of total responses		72.4		7.8		19.8	

Table 5.11b, the recoded form of this group of items, indicates the distributions of the responses in three categories ('agree', 'undecided' and 'disagree'), which are aggregated from the five categories and which provide clarity and indicate agreement, disagreement and indecision. This is useful for the sake of clarity, emphasis and generalisations (as opposed to the sensitivity and differentiation of the responses in the original data).

Modal scores

Modal scores in this group were all distributed in the category of 'agree'. There are no items where the modal scores are in the 'undecided', and 'disagree' categories. This indicates a very high agreement that the items comprise difficulties that teachers experience in their work.

In addition to examination of the modal scores, for the sake of clarity and emphasis of the results achieved from the data, the responses for each rating scale category ('agree', 'undecided' and 'disagree') are presented as follows:

Agree

72.4% of the total responses in this group indicated high agreement and were quite narrowly spread (there was a difference of almost 20 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Only one item (number 13) registered below 60%; 4 responses (20% of the total responses in this category) were between 60% and 70% (items 12, 20, 24, 30); 15 responses (75% of the total responses in this group) were between 70% and 80% (items 11, 14-19, 21-23, 25-29). The lowest rated item in this category was item 13 (58.8%) and the highest was item 21(79.5%). These indicate the high level of agreement across a range of items in this group; all responses (100%) of the total responses in this category were the modal score. Hence it was clear that all items were considered to be difficulties teachers face in their work.

Undecided

Responses in this category were very low, the lowest in this group (7.8% of the total responses in this group), very few were 'undecided' and narrowly spread (there was an almost 13 percentage points difference between the lowest score and the highest score here), this shows the homogeneity within this category, though there were 17 responses (85% of the total responses in this category) registered below 10% (items 11, 14-23, 25-30); items 12-13, 24 contained the highest frequencies in this category (between 12.2% and 17.5%). The lowest rated item in this category was item 21 (4.2%) and the highest was item 13 (17.5%). These frequencies indicate that respondents were clear and decided in their views.

Disagree

Responses in this category indicated a low percentage of disagreement (19.8% of the total responses in this group), narrowly spread (there was a difference of almost 10 percentage points between the lowest score and the highest score here), this showing the homogeneity within this category, though there were 8 responses (40% of the total responses in this category) registered below 20% (items 14-15, 18, 21-22, 25-26, 29); 12 responses (60% of the total responses in this category) were between 20% and 25% (items 11-13, 16-17, 19-20, 23-24, 27-28,30). The lowest rated item in this category was item 18 (13.4%) and the highest was item 20 (24%). There was, then, a low level of disagreement that these items comprise difficulties that teachers face in their work.

Overall, table (5.11b) shows the frequencies of responses in this group of ordinal data, and the main features are:

- The results in this table match exactly the results from table 5.11a;
- For *all* the items in this group the modal score is 'agree', this indicates that respondents were *totally* agreed that these items comprise difficulties that teachers experience in their work;
- The vast majority of respondents (72.4% of the total responses in this group of items) agreed that these items comprise difficulties that teachers face in their work;
- With regard to the low frequency in the 'undecided' category, respondents were clear and decided in their views, very few (7.8%) were 'undecided' and this was the lowest category in this group;
- The minority of respondents (19.8% in this group of items) disagreed that these items comprise difficulties that teachers experience in their work, hence for all the items in this group respondents were clear in their decisions of the low level of disagreement;
- In all the categories there was a homogeneity of distributions within each category in this group.

Summary of difficulties that teachers face in their work

The results suggest that:

This range of items is wide, indicating that difficulties lie in many fields. The scores in this group of items were close from high to low priorities (biggest/smallest difficulties), as indicated below (1) first priority, (2) second, (3) third, etc.

The vast majority of the sample (72.4%) considered that the following items comprise difficulties that teachers experience in their work: 21 (1st), 18 (2nd), 15 (3rd), 25 (4th), 26 (5th), 14 (6th), 22 (7th), 11 (8th), 17 (9th), 27 (10th), 29 (11th), 19 (12th), 16 and 28 (13th), 23 (14th), 30 (15th), 20 (16th), 12 (17th), 24 (18th), 13 (19th).

The minority of the sample (19.8%) thought that the above items did not comprise difficulties that teachers experience in their work.

Very few (7.8%) were 'undecided' about the above items that comprise difficulties that teachers experience in their work i.e. respondents were clear and decided in their views.

There was a homogeneity of distributions within each category in this group.

Improving teachers' professional effectiveness at present

In this group of items (ordinal data) respondents were asked to indicate what teachers do currently to improve or attempt to improve their effectiveness. Table 5.12 (the original - unrecoded - data) displays the frequencies and percentages of responses in this group.

Table 5.12 Distribution of frequencies for activities which teachers are using now to improve their professional effectiveness.

Variable	A very great deal		Quite a lot		A little		Very little		Not at all		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
32. Undertaking personal reading and study	382	34.7	434	39.5	234	21.3	42	3.8	8	.7	1100
33. Using modern techniques such as computer, video and media programmes	95	8.7	121	11.1	171	15.6	173	15.8	533	48.8	1093
34. Reading specialised textbook(s)	392	35.7	402	36.6	213	19.4	68	6.2	24	2.2	1099
35. Attending courses	124	11.3	176	16.0	266	24.2	174	15.8	358	32.6	1098
36. Attending workshops and seminars	63	5.7	107	9.8	204	18.6	186	17.0	536	48.9	1096
37. Using modern methods of teaching	239	21.8	347	31.6	285	26.0	105	9.6	121	11.0	1097
38. Teaching a different group of students	219	20.1	375	34.5	212	19.5	93	8.5	189	17.4	1088
39. Working with other teachers (using observation and discussion)	286	26.0	354	32.2	259	23.5	96	8.7	105	9.5	1100
40. Visiting other schools	109	9.9	155	14.1	288	26.3	180	16.4	365	33.3	1097
41. Exchanging information with other institutions	111	10.1	171	15.6	273	24.9	184	16.8	359	32.7	1098
42. Following up the advice from inspectors	502	45.9	396	36.2	124	11.3	43	3.9	28	2.6	1093
43. Being involved in school discipline and decision-making	331	30.1	360	32.7	232	21.1	95	8.6	82	7.5	1100
Overall % of total responses		21.7		25.8		21		10.9		20.6	

In order to clarify the specificity and sensitivity of *degree* of usage level in this group of items, the distributions of the responses in the five categories ('a very great deal' to 'not at all') are reported.

Modal scores

Modal scores in this group were distributed in the three categories, ('a very great deal', 'quite a lot' and 'not at all'). There are no items where the modal scores are in the 'a little' and 'very little' categories. Only one item (number 42) (8.3% of the total 12 rating scale items) where the modal score is 'a very great deal'. There were 6 items (50% of the 12 rating scale items) where the modal score is 'quite a lot' (items 32, 34, 37-39, 43). These indicate that there are several activities that teachers are using now to improve their professional effectiveness. There were 5 items (41.7% of the 12 rating scale items) where the modal score is 'not at all' (items 33, 35-36, 40-41). These indicate that teachers currently do not at all use these activities to improve their effectiveness.

In addition to examination of the modal scores, to emphasise specificity and sensitivity of the results achieved from the data it is worthwhile to examine the responses for each rating scale category ('a very great deal' to 'not at all') are presented as follows:

A very great deal

21.7% of the total responses in this group were found quite widespread (there was a difference of almost 37 percentage points between the lowest score and the highest score here), this shows that there is some diversity within this category. There were three scores (25% of the total responses in this category) registered below 10% (items 33, 36 and 40); only two responses (items 35 and 41) (16.7% of the total responses in this category) were between 10% and 20%; 3 responses (items 37, 38 and 39) (25% of the total responses in this category) were between 20% and 30%; 3 responses (items 32, 34 and 43) (25% of the total responses in this category) were between 30% and 40%; item 42 scored (45.9%). The lowest rated item in this category was item 33 (8.7%) and the highest was item 42 (45.9%). These indicate the high level of teachers' use of items (activities) in this group in an attempt to improve their professional effectiveness.

Quite a lot

25.8% of the total responses in this group were found quite narrowly spread (there was a difference of almost 30 percentage points between the lowest score and the highest score here), this indicates the homogeneity within this category. Only one response item 36 (8.3% of the total responses in this category) registered below 10%; 4

responses (33.3% of the total responses in this category) were between 10% and 20% (items 33, 35, 40-41); 7 responses (58.3% of the total responses in this group) were between 30% and 40% (items 32, 34, 37-39, 42-43). The lowest rated item in this category was item 36 (9.8%) and the highest was item 32 (39.5%). The modal *category*, therefore was of between 30% and 40%. These indicate the moderate level of teachers' use of several items in this group in an attempt to improve their professional effectiveness.

A little

21% of the total responses in this group were found narrowly spread (there was a difference of 15 percentage points between the lowest score and the highest score here), this indicates the homogeneity within this category. 5 responses (41.7% of the total responses in this category) between 10% and 20% (items 33-34, 36, 38, 42); 7 responses (58.3% of the total responses in this category) were between 20% and 30% (items 32, 35, 37, 39, 40-41, 43). The lowest rated item in this category was item 42 (11.3%) and the highest was item 40 (26.3%). These indicate that 21% of the total respondents are using these items 'a little' in order to improve their professional effectiveness.

Very little

Responses in this category were very low (10.9% of the total responses in this group, the lowest in this group, and quite narrowly spread (there was a difference of almost 13 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 7 responses (58.3% of the total responses in this category) registered below 10% (items 32, 34, 37-39, 42-43); 5 responses (41.7% of the total responses in this category) were between 10% and 17% (items 33, 35-36, 40-41). The lowest rated item in this category was item 32 (3.8%) and the highest was item 36 (17%). These frequencies are the lowest level in this group, so one can observe that very few respondents indicate that teachers are using these items (activities) 'very little' to improve their professional effectiveness.

Not at all

The frequencies in this 'extreme' category were 20.6% of the total responses in this group and were quite widespread (there was a difference of almost 48 percentage points between the lowest score and the highest score here), this indicates that there is

some diversity within this category. 7 responses (58.3% of the total responses in this category) registered below 20% (items 32, 34, 37-39, 42-43); 3 responses (25% of the total responses in this category) were between 30% and 40% (items 35, 40-41); 2 responses (16.7% of the total responses in this category) were between 40% and 50% (items 33 and 36). The lowest rated item in this category was item 32 (0.7%) and the highest was item 36 (48.9%). These indicate that respondents express the view that teachers do not use these activities at all with regard to improving their professional effectiveness.

In short, table (5.12) shows the frequencies of responses in this group of ordinal data (in order of high to low use of these items), these indicate that there is widespread distribution within the group of items that teachers use in attempt to improve their professional effectiveness.

As a result of respondents' ratings of the above group of items, there were 21.7% of the total respondents who indicated that teachers use these items (activities) *a very great deal*, 25.8% *quite a lot*, 21% *a little*, 10.9% *very little*, and 20.6% *not at all*.

Summary of improving teachers' professional effectiveness at present

The results suggest that:

This range of items is very wide, indicating that activities lie in many fields.

The vast majority of the sample (79.4%) considered that teachers were aware of and used the following group of items (activities), but at different levels (from a *very great deal* to *very little*): 32-43.

The minority of the sample (20.6%) considered that teachers did not use the above group of items *at all*. The most used items (activities) were (1) following up the advice from inspectors, (2) undertaking personal reading and study, (3) reading specialised textbook(s). The least used items were (1) attending workshops and seminars, (2) using modern techniques such as computer, video and media programmes.

Improving teachers' professional effectiveness in future

In this group of items (ordinal data) respondents were asked to indicate how, in future, each item might help teachers to improve their professional effectiveness.

Table 5.13a (the original - unrecoded - data) displays the frequencies and percentages of responses in this group. Recoding has been undertaken in this group of Likert scale ordinal data (from a 5 point rating scale to a 3 point scale as it shown in table 5.13b), mainly to reveal priorities and therefore to be able to make generalisations, as well as for the sake of clarity and emphasis.

Table 5.13a Distribution of frequencies for activities which teachers feel might help to improve their professional effectiveness in future.

<i>Variable</i>	Very important		Important		Not sure		Not important		Not at all important		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
45. Undertaking personal reading and study	918	83.5	166	15.1	8	.7	2	.2	6	.5	1100
46. Using modern techniques such as computer, video and media programmes	541	49.2	387	35.2	82	7.5	54	4.9	35	3.2	1099
47. Reading specialised textbook(s)	830	75.6	245	22.3	15	1.4	2	.2	6	.5	1098
48. Attending courses	480	43.7	443	40.3	96	8.7	54	4.9	25	2.3	1098
49. Attending workshops and seminars	340	31.1	446	40.7	177	16.2	89	8.1	43	3.9	1095
50. Using modern methods of teaching	740	67.3	313	28.5	29	2.6	9	.8	9	.8	1100
51. Teaching a different group of students	341	31.2	400	36.6	190	17.4	123	11.3	38	3.5	1092
52. Working with other teachers (using observation and discussion)	492	44.8	459	41.8	81	7.4	48	4.4	17	1.5	1097
53. Visiting other schools	301	27.5	435	39.8	142	13.0	155	14.2	60	5.5	1093
54. Exchanging information with other institutions	356	32.4	495	45.1	126	11.5	81	7.4	40	3.6	1098
55. Following up the advice from inspectors	694	63.4	321	29.3	37	3.4	28	2.6	14	1.3	1094
56. Being involved in school discipline and decision-making	580	52.7	395	35.9	70	6.4	41	3.7	14	1.3	1100
Overall % of total responses		50.2		34.2		8		5.3		2.3	

In order to clarify the specificity and sensitivity of *degree* of importance level in this group of items (activities), it is worth examining the distributions of the responses in the five categories ('very important' to 'not at all important').

Modal scores

The modal scores in this group were distributed in the importance levels ('very important' and 'important'). There are no items where the modal scores are in the 'not sure', 'not important' and 'not at all important' categories. There are 8 items (66.7% of the 12 rating scale items) where the modal score is 'very important' (items 45-48,

50, 52, 55-56). These indicate that respondents attach a high level of importance to these items (activities) which they consider might help teachers in future to improve their professional effectiveness. There are 4 items (33.3% of the 12 rating scale items) where the modal score is 'important' (items 49, 51, 53-54). These indicate a moderate level of importance that these items might help teachers in future in order to improve their professional effectiveness. Overall, it can be observed that the respondents record high and moderate levels of importance, the level of importance indicates that all items in this group were considered to help teachers in future to improve their professional effectiveness.

In addition to examination of the modal scores, in terms of specificity and sensitivity of the results achieved from the data, it is worthwhile to examine the responses for each rating scale category ('very important' to 'not at all important') are presented as follows:

Very important

Responses in this category were the highest in this group (50.2% of the total responses in this group) and quite widespread (there was a difference of 56 percentage points between the lowest score and the highest score here), this shows that there is some diversity within this category. Only item 53 (8.3% of the total responses in this category) scored below 30%; 3 responses (25% of the total responses in this category) were between 30% and 40% (items 49, 51, 54); 3 responses (25% of the total responses in this category) were between 40% and 50% (items 46, 48, 52); 5 responses (41.7% of the total responses in this category) registered over 50% items 45 (83.5%), 47 (75.6%), 50 (67.3%), 55 (63.4%) and item 56 (52.7%). The lowest rated item in this category was item 53 (27.5%) and the highest was item 45 (83.5%). These indicate that there is a high level of importance recorded across the range of items (activities) in this group, that respondents feel these items could help teachers in future with regard to improving their professional effectiveness.

The modal *category* was of over 40% where 8 responses (66.7% of the total responses in this category) were scored. Hence the majority of respondents considered that most of the items (activities) in this group might help teachers in future to improve their professional effectiveness.

Important

Responses in this category were quite moderate (34.2% of the total responses in this group) and quite widespread (there was a difference of 30 percentage points between the lowest score and the highest score here), this indicates that there is some diversity within this category. Only item 45 (8.3% of the total responses in this category) scored 15.1%; 3 responses (25% of the total responses in this category) were between 20% and 30% (items 47, 50, 55); 4 responses (33.3% of the total responses in this group) were between 30% and 40% (items 46, 51, 53, 56); 4 responses (33.3% of the total responses in this category) were between 40% and 50% (items 48-49, 52, 54). The lowest rated item in this category was item 45 (15.1%) and the highest was item 54 (45.1%). These indicate that there is a moderate level of importance recorded across the range of items in this group, that these items might help teachers in future with regard to improving their professional effectiveness.

Not sure

Responses in this category were very low (8% of the total responses in this group), very few were 'not sure' and narrowly spread (there was a difference of almost 17 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 8 responses (66.7% of the total responses in this category) registered less than 10% (items 45-48, 50, 52, 55-56); items 49, 51, 53-54 (33.3% of the total responses in this category) contained the highest frequencies in this category (between 11.5% and 17.4%). The lowest rated item in this category was item 45 (0.7%) and the highest was item 51 (17.4%). These frequencies indicate that respondents were clear and decided in their views.

Not important

Responses in this category were also very low (5.3% of the total responses in this group) and narrowly spread (there was a difference of 14 percentage points between the lowest score and the highest score here), this indicates the homogeneity within this category. 10 responses (83.3% of the total responses in this category) registered below 10% (items 45-50, 52, 54-56); 2 responses (16.7% of the total responses in this category) were between 10% and 15% (items 51 and 53). The lowest rated items in this category were items 45 and 47 (0.2%) and the highest was item 53 (14.2%). These frequencies indicate the low level of importance recorded in this group. It was clear that very few respondents give only a very little importance to the view that this

group of items might help teachers in future with regard to improving their professional effectiveness.

Not at all important

Responses in this 'extreme' category were very low indeed, it is the lowest category in this group (2.3% of the total responses), and very narrowly spread (there was a difference of 5 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. All items (100% of the total responses in this category) registered 5.5% and less. The lowest rated item in this category was item 47 (0.5%) and the highest was item 53 (5.5%). Very few respondents (2.3%) thought that the items (activities) in this group were not at all important in helping teachers to improve their professional effectiveness in future.

In summary, table 5.13a shows the frequencies of responses in this group of ordinal data and four main features:

Firstly, the majority of respondents (50.2% of the total responses in the following group of items) considered these items (activities) *very important* and 34.2% only *important* in helping teachers in future to improve their professional effectiveness. The items that registered these levels of importance were: 45-56. For all the items in this group the modal score was in the importance level, this indicates that respondents were totally clear that these items were important in helping teachers in future to improve their professional effectiveness, this range of items is very wide, indicating that activities lie in many fields. Secondly, with regard to the 'not sure', category respondents were clear and decided in their views, i.e. very few (8%) were 'undecided'. Thirdly, the minority of respondents (5.4% of the total responses in the above group of items) considered these items (activities) *not important* and 2.3% *not at all important* in helping teachers in future to improve their professional effectiveness; for all the items in this group respondents were clear in their decisions of the low level of importance. Finally, in most categories there was a homogeneity of distributions within each category in this group.

Table 5.13b Distribution of frequencies for activities which teachers feel might help to improve their professional effectiveness in future.

<i>Variable</i>	Important		Not sure		Not important		Total 100%
	Freq.	%	Freq.	%	Freq.	%	
45. Undertaking personal reading and study	1084	98.6	8	.7	8	.7	1100
46. Using modern techniques such as computer, video and media programmes	928	84.4	82	7.5	89	8.1	1099
47. Reading specialised textbook(s)	1075	97.9	15	1.4	8	.7	1098
48. Attending courses	923	84.0	96	8.7	79	7.2	1098
49. Attending workshops and seminars	786	71.8	177	16.2	132	12.0	1095
50. Using modern methods of teaching	1053	95.8	29	2.6	18	1.6	1100
51. Teaching a different group of students	741	67.8	190	17.4	161	14.8	1092
52. Working with other teachers (using observation and discussion)	951	86.6	81	7.4	65	5.9	1097
53. Visiting other schools	736	67.3	142	13.0	215	19.7	1093
54. Exchanging information with other institutions	851	77.5	126	11.5	121	11.0	1098
55. Following up the advice from inspectors	1015	92.7	37	3.4	42	3.9	1094
56. Being involved in school discipline and decision-making	975	88.6	70	6.4	55	5.0	1100
Overall % of total responses		84.4		8		7.6	

Table 5.13b, the recoded form of data in this group of items, indicates the distributions of the responses in three categories ('important', 'not sure' and 'not important'), which are aggregated from the five categories to provide clarity and to indicate importance, unimportance and uncertainty. This is useful for clarity, generalisation and emphasis (as opposed to the sensitivity and differentiation of the responses in the original data).

Modal scores

Modal scores in this group were all distributed in the category of 'important'. There are no items where the modal scores are in the 'not sure', and 'not important' categories. This indicates a very high importance level, i.e. that these items (activities) might help to improve teachers' professional effectiveness in future.

In addition to examination of the modal scores, for the sake of clarity and emphasis of the results achieved from the data, it is worthwhile to examine the responses for each rating scale category ('important', 'not sure' and 'not important') are presented as follows:

Important

Responses in this category indicated a very high percentage of importance indeed (84.4% of the total responses in this group) and were quite widely spread (there was a difference of almost 31 percentage points between the lowest score and the highest

score here), indicating some diversity within this category. Only items 51 and 53 (16.7% of the total responses in this category) scored below 70%; 2 responses (16.7% of the total responses in this category) were between 70% and 80% (items 49 and 54); 4 responses (33.3% of the total responses in this category) were between 80% and 90% (items 46, 48, 52, 56); 4 responses (33.3% of the total responses in this group) were over 90% (items 45, 47, 50, 55). The lowest rated item in this category was item 53 (67.3%) and the highest was item 45 (98.6%). These indicate the high level of importance recorded across the items in this group with regard to improving teachers' professional effectiveness in future.

Not sure

Responses in this category were very low (8% of the total responses in this group), very few were 'not sure' and the scores were narrowly spread (there was a difference of almost 17 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 8 responses (66.7% of the total responses in this category) registered less than 10% (items 45-48, 50, 52, 55-56); items 49, 51, 53-54 (33.3% of the total responses in this category) contained the highest frequencies in this category (between 11.5% and 17.4%). The lowest rated item in this category was item 45 (0.7%) and the highest was item 51 (17.4%). These frequencies indicate that respondents were clear and decided in their views.

Not important

Responses in this category were very low indeed, the lowest in this group (7.6% of the total responses in this group) and the scores were narrowly spread (there was a difference of 19 percentage points between the lowest score and the highest score here), this indicates the homogeneity within this category. 8 responses (66.7% of the total responses in this category) registered below 10% (items 45-48, 50, 52, 55-56); 4 responses (33.3% of the total responses in this category) were between 10% and 20% (items 49, 51, 53-54). The lowest rated item in this category was item 45 (0.7%) and the highest was item 53 (19.7%). These frequencies indicate the very low level of unimportance recorded in this group in relation to improving teachers' professional effectiveness in future.

Overall table 5.13b shows the frequencies of responses in this group of ordinal data and the main features are:

- The results in this table match exactly the results from table 5.13a;
- For *all* the items in this group the modal score is 'important', this indicates that respondents were *totally* clear in views about the importance of these items in helping teachers in future to improve their professional effectiveness;
- The vast majority of respondents (84.4% of the total responses in this group of items) considered these items (activities) *important* in helping teachers in future to improve their professional effectiveness;
- With regard to the 'not sure' category, respondents were clear and decided in their views, i.e. very few (8%) were 'not sure';
- The minority of respondents (7.6% of the total responses in this group of items) considered these items (activities) *not important* in helping teachers in future to improve their professional effectiveness, for all the items in this group respondents were clear in their decisions of the low level of importance;
- In the whole categories there was a homogeneity of rating within each category in this group.

Summary of improving teachers' professional effectiveness in future

The results suggest that:

These range of items is very wide, indicating that these activities lie in many fields.

The scores in this group of items were close from the highest to the lowest priorities (most important to less important activities), as indicated below (1) first priority, (2) second, (3) third, etc.

The vast majority of the sample (84.4%) considered that the following group of items might help teachers in future to improve their professional effectiveness: 45 (1st), 47 (2nd), 50 (3rd), 55 (4th), 56 (5th), 52 (6th), 46 (7th), 48 (8th), 54 (9th), 49 (10th), 51 (11th), 53 (12th).

The minority of the sample (7.6%) thought that the above group of items might not help teachers in future to improve their professional effectiveness.

Very few (8%) were 'not sure' that the above group of items might/might not help teachers in future to improve their professional effectiveness, i.e. respondents were clear and decided in their views.

For all the items the modal score is ‘important’, this indicates a high importance that these items might help teachers in future with regard to improving their professional effectiveness.

There was a homogeneity of rating within each category in this group.

Perceptions, opinions and preferences in the field of CPD

In this group of items (ordinal data) respondents were asked to indicate which of these items (the wide range of INSET activities) in this group could improve teachers’ professional effectiveness through the provision of INSET.

Table 5.14a (the original - unrecoded - data) displays the frequencies and percentages of responses in this group. Recoding has been undertaken in this group of Likert scale ordinal data (from a 5 point rating scale to a 3 point scale and is shown in table 5.14b), mainly to reveal priorities and therefore to be able to make generalisations, as well as for the sake of clarity and emphasis.

Table 5.14a Distribution of frequencies for a range of INSET programming issues which could improve teachers' professional effectiveness.

<i>Variable</i>	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total 100%
	Freq. & %	Freq. & %	Freq. & %	Freq. & %	Freq. & %	
58. INSET programmes should enable teachers to carry out new duties	382 (34.7%)	519 (47.2%)	92 (8.4%)	65 (5.9%)	42 (3.8%)	1100
59. INSET programmes should improve teachers' managerial skills	366 (33.3%)	560 (50.9%)	102 (9.3%)	58 (5.3%)	14 (1.3%)	1100
60. INSET programmes should provide opportunities to get away from the school environment	256 (23.4%)	370 (33.9%)	216 (19.8%)	190 (17.4%)	60 (5.5%)	1092
61. INSET programmes should help teachers to overcome deficits of initial training	507 (46.2%)	467 (42.5%)	85 (7.7%)	29 (2.6%)	10 (0.9%)	1098
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff	445 (40.6%)	523 (47.7%)	72 (6.6%)	40 (3.6%)	16 (1.5%)	1096
63. INSET programmes should be centred on improving teaching methods	425 (38.7%)	486 (44.3%)	64 (5.8%)	104 (9.5%)	19 (1.7%)	1098
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects	549 (50.1%)	441 (40.3%)	66 (6.0%)	26 (2.4%)	13 (1.2%)	1095
65. INSET programmes should enable teachers to cope with their professional tasks more successfully	631 (57.4%)	408 (37.1%)	41 (3.7%)	14 (1.3%)	5 (0.5%)	1099
66. INSET programmes could provide the best possible way of disseminating new ideas	656 (59.9%)	394 (35.9%)	29 (2.6%)	7 (0.6%)	10 (0.9%)	1096
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice	481 (44.1%)	467 (43.7%)	97 (8.9%)	24 (2.2%)	12 (1.1%)	1090
68. INSET programmes should improve class management skills	354 (32.5%)	588 (54.0%)	102 (9.4%)	28 (2.6%)	17 (1.6%)	1089
69. INSET programmes should provide opportunities to obtain new promotion	432 (39.7%)	439 (40.3%)	133 (12.2%)	67 (6.2%)	18 (1.7%)	1089
70. INSET programmes should focus on topics which teachers think are important	542 (49.5%)	464 (42.4%)	55 (5.0%)	28 (2.6%)	5 (0.5%)	1094
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators	586 (53.6%)	413 (37.8%)	66 (6.0%)	23 (2.1%)	6 (0.5%)	1094
72. INSET programmes should be a continuing process	366 (33.4%)	478 (43.6%)	120 (10.9%)	112 (10.2%)	21 (1.9%)	1097
73. INSET programmes should help parental involvement in their children's education	487 (44.5%)	461 (42.1%)	98 (8.9%)	39 (3.6%)	10 (0.9%)	1095
74. INSET programmes should be a high priority in the Libyan education system	456 (41.8%)	483 (44.2%)	114 (10.4%)	30 (2.7%)	9 (0.8%)	1092
75. INSET programmes should focus on improving students' achievements/standards	651 (59.3%)	406 (37.0%)	22 (2.0%)	10 (0.9%)	9 (0.8%)	1098
76. INSET programmes should be used to improve the quality and use of assessment of students	472 (42.9%)	556 (50.5%)	49 (4.5%)	17 (1.5%)	6 (0.5%)	1100
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems	497 (45.2%)	550 (50.0%)	31 (2.8%)	18 (1.6%)	4 (0.4%)	1100
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities	314 (28.5%)	568 (51.6%)	142 (12.9%)	63 (5.7%)	13 (1.2%)	1100
79. INSET programmes should be used to benefit from a range of resources in school	314 (28.6%)	588 (53.6%)	148 (13.5%)	39 (3.6%)	8 (0.7%)	1097
80. INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion	453 (41.2%)	463 (42.1%)	116 (10.6%)	50 (4.5%)	17 (1.5%)	1099
81. INSET programmes should benefit the whole school	526 (47.8%)	486 (44.2%)	62 (5.6%)	19 (1.7%)	7 (0.6%)	1100
82. INSET programmes should induct new teachers into their schools and the profession	600 (54.5%)	453 (41.2%)	34 (3.1%)	9 (0.8%)	4 (0.4%)	1100
83. If teachers were involved in planning INSET programmes, their commitment to them would be greater	463 (42.1%)	491 (44.6%)	111 (10.1%)	26 (2.4%)	9 (0.8%)	1100
84. Every teacher should be required to participate in INSET programmes regularly	316 (28.8%)	497 (45.3%)	147 (13.4%)	109 (9.9%)	28 (2.6%)	1097
85. There should be incentives for attending INSET programmes to encourage teachers' attendance	582 (52.9%)	439 (39.9%)	38 (3.5%)	31 (2.8%)	10 (0.9%)	1100
86. The head teacher should be responsible for INSET in his/her school	504 (45.8%)	406 (36.9%)	92 (8.4%)	63 (5.7%)	35 (3.2%)	1100
87. Practical techniques are more useful than theory in INSET programmes	611 (55.6%)	384 (34.9%)	71 (6.5%)	26 (2.4%)	7 (0.6%)	1099

88. Teachers should be released during school time to attend INSET programmes where necessary	300 (27.3%)	441 (40.2%)	142 (12.9%)	146 (13.3%)	69 (6.3%)	1098
89. There should be use of educational technology in INSET programmes	461 (42.2%)	495 (45.3%)	96 (8.8%)	29 (2.7%)	12 (1.1%)	1093
90. Inspectors are more qualified than teachers to identify the need for INSET programmes	328 (29.8%)	396 (36.0%)	200 (18.2%)	130 (11.8%)	46 (4.2%)	1100
91. In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes	366 (33.3%)	543 (49.5%)	86 (7.8%)	77 (7.0%)	26 (2.4%)	1098
92. Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance	471 (42.9%)	535 (48.7%)	62 (5.6%)	17 (1.5%)	14 (1.3%)	1099
93. Assessment of teachers during INSET activities would undermine the INSET programmes	146 (13.3%)	270 (24.6%)	296 (27.0%)	260 (23.7%)	124 (11.3%)	1096
94. Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject	142 (13.0%)	358 (32.8%)	203 (18.6%)	259 (23.7%)	130 (11.9%)	1092
95. Teachers attending INSET programmes should have teaching experience in the subject	381 (35.0%)	497 (45.6%)	92 (8.4%)	97 (8.9%)	23 (2.1%)	1090
96. Teachers attending INSET programmes should have administrative experience	232 (21.1%)	517 (47.0%)	176 (16.0%)	144 (13.1%)	30 (2.7%)	1099
97. The overall performance of the teacher should be taken into consideration in participation of INSET programmes	302 (27.5%)	603 (54.9%)	123 (11.2%)	57 (5.2%)	13 (1.2%)	1098
Overall % of total responses	39.6	43.1	9.3	5.9	2.1	

In table 5.11a it is useful, as an index of *degree* of agreement level (specificity and sensitivity) in this group of items, to examine the distributions of the responses in the five categories ('strongly agree' to 'strongly disagree').

Modal scores

The modal scores in this group were almost all distributed in the agreement levels ('strongly agree' and 'agree'). There are no items where the modal scores are in the 'disagree' and 'strongly disagree' categories. There are 14 items (35% of the 40 rating scale items) where the modal score is 'strongly agree' (items 61, 64-67, 70-71, 73, 75, 81-82, 85-87). These indicate a high agreement that these range of items (activities) of INSET provision could improve teachers' professional effectiveness in a wide range of fields. There are 25 items (62.5% of the 40 rating scale items) where the modal score is 'agree' (items 58-60, 62-63, 68-69, 72, 74, 76-80, 83-84, 88-92, 94-97). These indicate a moderate level of agreement that this wide range of INSET activities (items) could improve teachers' professional effectiveness. Only item 93 (2.5% of the 40 rating scale items) recorded a modal score of 'undecided'. This indicates that respondents were undecided in their views about this item. In short, it can be observed that the respondents demonstrate strong and moderate levels of agreement, the level of agreement indicates that almost all items of INSET provision could improve teachers' professional effectiveness, except item 93 which concerned the view that assessment of teachers during INSET activities would undermine the INSET programmes, where respondents were undecided.

In addition to examination of the modal scores, to provide specificity and sensitivity of the results achieved from the data, the responses for each rating scale category ('strongly agree' to 'strongly disagree') are presented as follows:

Strongly agree

Responses in this category were quite high (39.55% of the total responses in this group and were quite widespread (there was a difference of almost 47 percentage points between the lowest score and the highest score here), this indicates that there is some diversity within this category. Only two scores (5% of the total responses in this category) registered below 20% (items 93 and 94); 8 responses (20% of the total responses in this category) were between 20% and 30% (items 60, 78-79, 84, 88, 90, 96-97) ; 8 responses (20% of the total responses in this category) were between 30% and 40% (items 58-59, 63, 68-69, 72, 91, 95) ; 14 responses (35% of the total responses in this category) were between 40% and 50% (items 61-62, 67, 70, 73-74, 76-77, 80-81, 83, 86, 89, 92); 8 responses (20% of the total responses in this category) were between 50% and 60% (items 64-66, 71, 75, 82, 85, 87). The lowest rated item in this category was item 94 (13%) and the highest was item 66 (59.9%). These indicate a high level of agreement across the range of items in this group that this wide range of INSET activities could improve teachers' professional effectiveness.

Agree

Responses in this category indicate a high percentage of agreement, the highest in this group (43.1% of the total responses in this group) and quite narrowly spread (there was a difference of almost 30 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Only item 93 (2.5% of the total responses in this category) registered below 30%; 10 responses (25% of the total responses in this category) were between 30% and 40% (items 60, 65-66, 71, 75, 85-87, 90,94); 22 responses (55% of the total responses in this group) were between 40% and 50% (items 58, 61-64, 67, 69-70, 72-74, 80-84, 88-89, 91-92, 95-96); 7 responses (17.5% of the total responses in this category) were between 50% and 60% (items 59, 68, 76-79, 97). The lowest rated item in this category was item 93 (24.6%) and the highest was item 97 (54.9%). There is a moderate level of agreement across the wide range of items in this group with regard to the view that INSET activities could improve teachers' professional effectiveness. The modal *category*, therefore was of between 30% and 60%, where 62.5% of the total responses in this

category were scored. The majority of respondents considered that most of the items in this group of INSET activities could improve teachers' professional effectiveness.

Undecided

Responses in this category were very low (9.3% of the total responses in this group), very few were 'undecided' and the scores were quite narrowly spread (there was a difference of 25 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 25 responses (62.5% of the total responses in this category) registered below 10% (items 58-59, 61-68, 70-71, 73, 75-77, 81-82, 85-87, 89, 91-92, 95); 14 responses (35% of the total responses in this category) were between 20% and 30% (items 60, 69, 72, 74, 78-80, 83, 84, 88, 90, 94, 96-97); item 93 contained the highest frequency in this category (27%). The lowest rated item in this category was item 75 (2%) and the highest was item 93 (27%). Hence respondents were clear and decided in their views about a wide range of items in INSET provision.

Disagree

Responses in this category were very low (5.9% of the total responses in this group) and quite narrowly spread (there was a difference of almost 23 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 33 responses (82.5% of the total responses in this category) registered below 10% (items 58-59, 61-71, 73-87, 89, 91-92, 95, 97); 5 responses (12.5% of the total responses in this category) were between 10% and 20% (items 60, 72, 88, 90, 96); items 93 and 94 contained the highest frequencies in this category, they were (23.7%). The lowest rated item in this category was item 66 (0.6%) and the highest were items 93 and 94 (23.7%). These frequencies indicate the low level of disagreement in this group. Respondents disagreed very little (5.9%) with the view that this group of items (INSET activities) could improve teachers' professional effectiveness.

Strongly disagree

Responses in this 'extreme' category were very low indeed (2.1% of the total responses in this group) and very narrowly spread (there was a difference of 11.5 percentage points between the lowest score and the highest score here), this indicates the homogeneity within this category. 38 responses (95% of the total responses in this

category) registered less than 10% (items 58-92, 95-97); only two responses items - 93 and 94 - (5% of the total responses in this category) registered 11.3% and 11.9%. The lowest rated item in this category was item 77 (0.4%) and the highest was item 94 (11.9%). Frequencies in this category were extremely low, 100% recorded 11.9% and less, the lowest category in this group. These indicate that the respondents strongly disagreed very little indeed that the wide range of items (activities) in this group could improve teachers' professional effectiveness.

In summary, table 5.14a shows the frequencies of responses in this group of ordinal data and five main features:

Firstly, the range of items is very wide, indicating that activities in INSET provision lie in many fields. Secondly, the majority of respondents (39.6% of the total responses in the following group of items) strongly agreed and 43.1% agreed that these items (group of activities - from 58 to 97) could improve teachers' professional effectiveness. In all the items in this group the modal scores were in the agreement levels except item 93 which was the undecided category; these indicate that respondents were almost all agreed that these items could improve teachers' professional effectiveness. Thirdly, with regard to the 'undecided' category, respondents were clear and decided in their views, very few (9.3%) were 'undecided'. Fourth, the minority of respondents (5.9% in this group of items) disagreed and 2.1% strongly disagreed that this wide range of items could improve teachers' professional effectiveness; for all the items in this group respondents were clear in their decisions of the low level of disagreement. Finally, in most categories there was a homogeneity of rating within each category in this group.

Table 5.14b Distribution of frequencies for a range of INSET programming issues which could improve teachers' professional effectiveness.

<i>Variable</i>	Agree	Undecided	Disagree	Total 100%
	Freq. & %	Freq. & %	Freq. & %	
58. INSET programmes should enable teachers to carry out new duties	901 (81.9%)	92 (8.4%)	107 (9.7%)	1100
59. INSET programmes should improve teachers' managerial skills	926 (84.2%)	102 (9.3%)	72 (6.6%)	1100
60. INSET programmes should provide opportunities to get away from the school environment	626 (57.3%)	216 (19.8%)	250 (22.9%)	1092
61. INSET programmes should help teachers to overcome deficits of initial training	974 (88.7%)	85 (7.7%)	39 (3.5%)	1098
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff	968 (88.3%)	72 (6.6%)	56 (5.1%)	1096
63. INSET programmes should be centred on improving teaching methods	911 (83.0%)	64 (5.8%)	123 (11.2%)	1098
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects	990 (90.4%)	66 (6.0%)	39 (3.6%)	1095
65. INSET programmes should enable teachers to cope with their professional tasks more successfully	1039 (94.5%)	41 (3.7%)	19 (1.8%)	1099
66. INSET programmes could provide the best possible way of disseminating new ideas	1050 (95.8%)	29 (2.6%)	17 (1.5%)	1096
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice	948 (87.8%)	97 (8.9%)	36 (3.3%)	1090
68. INSET programmes should improve class management skills	942 (86.5%)	102 (9.4%)	45 (4.2%)	1089
69. INSET programmes should provide opportunities to obtain new promotion	871 (80.0%)	133 (12.2%)	85 (7.9%)	1089
70. INSET programmes should focus on topics which teachers think are important	1006 (91.9%)	55 (5.0%)	33 (3.1%)	1094
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators	999 (91.4%)	66 (6.0%)	29 (2.6%)	1094
72. INSET programmes should be a continuing process	844 (77.0%)	120 (10.9%)	133 (12.1%)	1097
73. INSET programmes should help parental involvement in their children's education	948 (86.6%)	98 (8.9%)	49 (4.5%)	1095
74. INSET programmes should be a high priority in the Libyan education system	939 (86.0%)	114 (10.4%)	39 (3.5%)	1092
75. INSET programmes should focus on improving students' achievements/standards	1057 (96.3%)	22 (2.0%)	19 (1.7%)	1098
76. INSET programmes should be used to improve the quality and use of assessment of students	1028 (93.4%)	49 (4.5%)	23 (2.0%)	1100
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems	1047 (95.2%)	31 (2.8%)	22 (2.0%)	1100
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities	882 (80.1%)	142 (12.9%)	76 (6.9%)	1100
79. INSET programmes should be used to benefit from a range of resources in school	902 (82.2%)	148 (13.5%)	47 (4.3%)	1097
80. INSET programmes should not be conducted in a formal way, like college/university courses, but in a more informal fashion	916 (83.3%)	116 (10.6%)	67 (6.0%)	1099
81. INSET programmes should benefit the whole school	1012 (92.0%)	62 (5.6%)	26 (2.3%)	1100
82. INSET programmes should induct new teachers into their schools and the profession	1053 (95.7%)	34 (3.1%)	13 (1.2%)	1100
83. If teachers were involved in planning INSET programmes, their commitment to them would be greater	954 (86.7%)	111 (10.1%)	35 (3.2%)	1100
84. Every teacher should be required to participate in INSET programmes regularly	813 (74.1%)	147 (13.4%)	137 (12.5%)	1097
85. There should be incentives for attending INSET programmes to encourage teachers' attendance	1021 (92.8%)	38 (3.5%)	41 (3.7%)	1100
86. The head teacher should be responsible for INSET in his/her school	910 (82.7%)	92 (8.4%)	98 (8.9%)	1100
87. Practical techniques are more useful than theory in INSET programmes	995 (90.5%)	71 (6.5%)	33 (3.0%)	1099
88. Teachers should be released during school time to attend INSET programmes where necessary	741 (67.5%)	142 (12.9%)	215 (19.6%)	1098
89. There should be use of educational technology in INSET programmes	956 (87.5%)	96 (8.8%)	41 (3.8%)	1093
90. Inspectors are more qualified than teachers to identify the need for INSET programmes	724 (65.8%)	200 (18.2%)	176 (16.0%)	1100

91. In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes.	909 (82.8%)	86 (7.8%)	103 (9.4%)	1098
92. Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance	1006 (91.6%)	62 (5.6%)	31 (2.8%)	1099
93. Assessment of teachers during INSET activities would undermine the INSET programmes	416 (37.9%)	296 (27.0%)	384 (35.0%)	1096
94. Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject	500 (45.8%)	203 (18.6%)	389 (35.6%)	1092
95. Teachers attending INSET programmes should have teaching experience in the subject	878 (80.6%)	92 (8.4%)	120 (11.0%)	1090
96. Teachers attending INSET programmes should have administrative experience	749 (68.1%)	176 (16.0%)	174 (15.8%)	1099
97. The overall performance of the teacher should be taken into consideration in participation of INSET programmes	905 (82.4%)	123 (11.2%)	70 (6.4%)	1098
<i>Overall % of total responses</i>	<i>82.7</i>	<i>9.3</i>	<i>8</i>	

Table 5.14b, the recoded form of this group of items, indicates the distributions of the responses in three categories ('agree', 'undecided' and 'disagree'), which are aggregated from the five categories and which provide clarity and indicate agreement, disagreement and indecision. This is useful for the sake of generalisations, clarity and emphasis (as opposed to the sensitivity and differentiation of the responses in the original data).

Modal scores

Modal scores in this group were all distributed in the category of 'agree'. There are no items where the modal scores are in the 'undecided', and 'disagree' categories. This indicates a very high agreement that this wide range of items (INSET activities) could improve teachers' professional effectiveness.

In addition to examination of the modal scores, for the sake of clarity and emphasis of the results achieved from the data, the responses for each rating scale category ('agree', 'undecided' and 'disagree') are presented as follows.

Agree

Responses in this category indicated a very high percentage of agreement (82.7% of the total responses in this group) and the scores were widely spread (there was a difference of almost 58 percentage points between the lowest score and the highest score here), this shows that there is some diversity within this category. Only items 60, 93-94 (7.5% of the total responses in this category) registered below 60%; 5 responses (12.5% of the total responses in this group) were between 60% and 80% (items 72, 84, 88, 90, 96); 19 responses (47.5% of the total responses in this category) were between 80% and 90% (items 58-59, 61-63, 67-69, 73-74, 78-80, 83, 86, 89, 91, 95, 97); 13 responses (32.5% of the total responses in this group) registered over 90%

(items 64-66, 70-71, 75-77, 81-82, 85, 87, 92). The lowest rated item in this category was item 93 (37.9%) and the highest was item 75 (96.3%). There was a high level of agreement across the wide range of items in this group with regard to the view that INSET provision could improve teachers' professional effectiveness.

Undecided

Responses in this category were very low (9.3% of the total responses in this group), very few were 'undecided' and quite narrowly spread (there was a difference of 25 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 25 responses (62.5% of the total responses in this category) registered below 10% (items 58-59, 61-68, 70-71, 73, 75-77, 81-82, 85-87, 89, 91-92, 95); 14 responses (35% of the total responses in this category) were between 20% and 30% (items 60, 69, 72, 74, 78-79, 80, 83-84, 88, 90, 94, 96-97); item 93 contained the highest frequencies in this category (27%) which concerned the view that assessment of teachers during INSET activities would undermine the INSET programmes. The lowest rated item in this category was item 75 (2%) and the highest was item 93 (27%). Respondents were clear and decided in their views about a wide range of items in INSET provision.

Disagree

Responses in this category were very low, the lowest in this group (8% of the total responses in this group) and the scores were quite widely spread (there was a difference of almost 34 percentage points between the lowest score and the highest score here), this shows there is some diversity within this category. 30 responses (75% of the total responses in this category) registered below 10% (items 58-59, 61-62, 64-71, 73-83, 85-87, 89, 91-92, 97); 7 responses (17.5% of the total responses in this category) were between 10% and 20% (items 63, 72, 84, 88, 90, 95, 96); item 60 scored 22.9%; items 93, 94 contained the highest frequencies in this category, they were 35% and 35.6%. The lowest rated item in this category was item 82 (1.2%) and the highest was item 94 (35.6%). These frequencies indicate the low level of disagreement with the issues in this group, it is the lowest category in this group and indicates that the respondents disagreed very little indeed with the view that the wide range of items in this group could improve teachers' professional effectiveness.

Overall table 5.14b shows the frequencies of responses in this group of ordinal data and the main features:

- The results in this table match exactly the results from table 5.14a;
- The range of items is very wide, indicating activities in INSET provision lie in many fields;
- The vast majority of respondents (82.7% of the total responses in this group of features items) agreed that these items (INSET provision) could improve teachers' professional effectiveness, in almost all the items the modal score is 'agree' except item 93, which was in the undecided category. These indicate a high agreement with the view that these items could improve teachers' professional effectiveness;
- With regard to the 'undecided' category, respondents were clear and decided in their views, very few (9.3%) were 'undecided' about a wide range of items in INSET provision;
- The minority of respondents (8% in this group of items) disagreed with the view that these items could improve teachers' professional effectiveness, for all the items in this group respondents were clear in their decisions on the low level of disagreement.

Summary of perceptions, opinions and preferences in the field of CPD

At this stage, it can be concluded that the results suggest that:

The modal score for all the items in this group is 'agree', which indicates that these items could improve teachers' professional effectiveness.

The vast majority of the sample (82.7%) considered the following group of items-numbers 58 to 97 - (activities in INSET provision) could improve teachers' professional effectiveness. This range of items is very wide, indicating activities in INSET provision lie in many fields.

The minority of the sample (8%) thought that the above group of items could not improve teachers' professional effectiveness.

Very few (9.3%) were 'undecided' that the above group of items could improve teachers' professional effectiveness, i.e. respondents were clear and decided in their views.

The highest rated items (activities) in this group were:

- 1) INSET programmes should focus on improving students' achievements/standards;

- 2) INSET programmes could provide the best possible way of disseminating new ideas;
- 3) INSET programmes should induct new teachers into their schools/the profession;
- 4) INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems;
- 5) INSET programmes should enable teachers to cope with their professional tasks more successfully.

The lowest rated items were:

- 1) Assessment of teachers during INSET activities would undermine the INSET programmes;
- 2) Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject;
- 3) INSET programmes should provide opportunities to get away from the school environment.

Preferences for Attendance at INSET Courses

In this group of items (ordinal data) respondents were asked to indicate *when* teachers would prefer to attend INSET activities. Table 5.15 (the original - unrecoded - data) displays the frequencies and percentages of responses in this group.

Table 5.15 Distribution of frequencies for teachers' preferences for attendance at INSET courses.

<i>Variable</i>	1 Most preferred		2		3		4		5 Least preferred		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
98. During school time	342	31.1	142	12.9	91	8.3	140	12.7	385	35.0	1100
99. Evenings	163	14.8	161	14.6	131	11.9	154	14.0	490	44.6	1099
100. Weekends	67	6.1	82	7.5	98	9.0	165	15.1	682	62.3	1094
101. School vacations	146	13.3	155	14.2	104	9.5	136	12.4	554	50.6	1095
102. Summer holidays	271	24.7	199	18.2	77	7.0	83	7.6	466	42.5	1096
103. A combination of the above times	283	25.8	353	32.2	187	17.0	82	7.5	192	17.5	1097
<i>Overall % of total responses</i>		<i>19.3</i>		<i>16.6</i>		<i>10.4</i>		<i>11.6</i>		<i>42.1</i>	

In order to clarify the specificity and sensitivity of *degree* of preference level in this group of items, it is worth examining the distributions of the responses in the five categories ('1-most preferred' to '5-least preferred').

Modal scores

Modal scores in this group were distributed in the two categories, ('2' and '5'). There are no items where the modal scores are in the '1', '3' and '4' categories. Only one item (number 103) (16.7% of the total of 6 rating scale items) where the modal score is '2'. There are 5 items (83.3% of the 6 rating scale items) where the modal score is '5' (items 98-102).

In addition to examination of the modal scores, to emphasise specificity and sensitivity of the results, the responses for each rating scale category ('1-most preferred' to '5-least preferred') are presented as follows.

Category 1 (most preferred)

Responses in this category were quite low (19.3% of the total responses in this group) and quite narrowly spread (there was a difference of 25 percentage points between the lowest score and the highest score here), this indicates the homogeneity within this category. Only item 100 (16.7% of the total responses in this category) registered below 10%; items 99 and 101 (33.3% of the total responses in this category) were between 10% and 20%; two responses (33.3% of the total responses in this category) were between 20% and 30% (items 102 and 103); item 98 (31.1%) contained the highest frequency in this category. The lowest rated item in this category was item 100 (6.1%) and the highest was item 98 (31.1%).

Category 2

Responses in this category were also low (16.6% of the total responses in this group) and quite narrowly spread (there was a difference of almost 25 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Only one response item 100 (7.5% of the total responses in this category) registered below 10%; 4 responses (66.7% of the total responses in this category) were between 10% and 20% (items 98-99, 101-102); item 103 (32.2%) contained the highest frequency in this category. The lowest rated item in this category was item 100 (7.5%) and the highest was item 103 (32.2%).

Category 3

Responses in this category were very low, the lowest in this group (10.4% of the total responses in this group) and very narrowly spread (there was a difference of 10 percentage points between the lowest score and the highest score here), this shows the

homogeneity within this category. 4 responses (66.7% of the total responses in this category) registered below 10% (items 98, 100-102); 2 responses (33.3% of the total responses in this category) were between 10% and 20% (items 99 and 103). The lowest rated item in this category was item 102 (7%) and the highest was item 103 (17%).

Category 4

Responses in this category were very low (11.6% of the total responses in this group), and very narrowly spread (there was a difference of almost 8 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Only 2 responses (33.3% of the total responses in this category) registered below 10% (items 102 and 103); 4 responses (66.7% of the total responses in this category) were between 10% and 20% (items 98-101). The lowest rated item in this category was item 103 (7.5%) and the highest was item 100 (15.1%).

Category 5 (least preferred)

Responses in this 'extreme' category were quite high, the highest in this group (42.1% of the total responses in this group) and the scores were quite widespread (there was a difference of almost 45 percentage points between the lowest score and the highest score here), this shows that there is some diversity in this category. Only item 103 (16.7% of the total responses in this category) registered below 20%; item 98 (16.7% of the total responses in this category) scored 35%; 2 responses (33.3% of the total responses in this category) were between 40% and 50% (items 99 and 102); item 101 (16.7% of the total responses in this category) scored 50.6%; item 100 (16.7% of the total responses in this category) contained the highest frequency in this category (62.3%). The lowest rated item in this category was item 103 (17.5%) and the highest was item 100 (62.3%).

In summary, table 5.15 shows the frequencies of responses in this group of ordinal data (in order of high preference to low preference of these items), these indicate that there is widespread distribution within the following group of items, which address times for attending INSET: (98) during school time, (99) evenings, (100) weekends, (101) school vacations, (102) summer holidays, (103) a combination of the above times.

The most preferred item (time for attendance) was that a combination of the times listed in this group, and the least preferred time was weekends.

Preferences for Types of INSET Courses

In this group of items (ordinal data) respondents were asked to indicate *which types* of INSET courses teachers would prefer. Table 5.16 (the original - unrecoded - data) displays the frequencies and percentages of responses in this group.

Table 5.16 Distribution of frequencies for teachers' preferences for types of INSET courses.

<i>Variable</i>	1 Most preferred		2		3		4		5 Least preferred		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
105.Long-award-bearing courses	357	32.5	202	18.4	89	8.1	119	10.8	332	30.2	1099
106.Short-award-bearing courses	501	45.6	257	23.4	103	9.4	90	8.2	148	13.5	1099
107.Short non-award-bearing courses	157	14.4	150	13.7	143	13.1	159	14.5	484	44.3	1093
108.Workshops and study group	360	32.9	310	28.4	168	15.4	80	7.3	175	16.0	1093
109.INSET provision with other school(s)	344	31.4	358	32.7	157	14.3	88	8.0	149	13.6	1096
110.A combination of the above courses	336	30.6	371	33.8	181	16.5	68	6.2	142	12.9	1098
Overall % of total responses		31.2		25.1		12.8		9.2		21.7	

In order to clarify the specificity and sensitivity of *degree* of preference level in this group of items, it is worth examining the distributions of the responses in the five categories ('1-most preferred' to '5-least preferred').

Modal scores

Modal scores in this group were distributed in the three categories, ('1', '2' and '5'). There are no items where the modal scores are in the '3' and '4' categories. There were 3 items (50% of the total 6 rating scale items) where the modal score is '1' (items 105, 106, 108). There were 2 items (33.3% of the 6 rating scale items) where the modal score is '2' (items 109 and 110). Only item number 107 (16.7% of the 6 rating scale items) where the modal score is '5'.

In addition to examination of the modal scores, to emphasise specificity and sensitivity of the results achieved from the data, the responses for each rating scale category ('1-most preferred' to '5-least preferred') are presented as follows:

Category 1 (most preferred)

Responses in this category were the highest in this group (31.2% of the total responses in this group) and quite widely spread (there was a difference of almost 31 percentage points between the lowest score and the highest score here), this indicates some diversity within this category. Only item 107 (16.7% of the total responses in this category) scored 14.4%; 4 responses (66.7% of the total responses in this category) were between 30% and 40% (items 105, 108-110); item 106 contained the highest frequency in this category (45.6%). The lowest rated item in this category was item 107 (14.4%) and the highest was item 106 (45.6%).

Category 2

Responses in this category were (25.1% of the total responses in this group) and quite narrowly spread (there was a difference of almost 20 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Two responses (33.3% of the total responses in this category) registered less than 20% (items 105 and 107); 2 responses (33.3% of the total responses in this category) were between 20% and 30% (items 106 and 108); items 109 and 110 (33.3% of the total responses in this category) contained the highest frequencies in this category (32.7%/33.8%). The lowest rated item in this category was item 107 (13.7%) and the highest was item 110 (33.8%).

Category 3

Responses in this category were low (12.8% of the total responses in this group) and very narrowly spread (there was a difference of almost 8 percentage points between the lowest score and the highest score here), this shows the homogeneity within this group. 2 responses (33.3% of the total responses in this category) registered below 10% (items 105, 106); 4 responses (66.7% of the total responses in this category) were between 10% and 20% (items 107-110). The lowest rated item in this category was item 105 (8.1%) and the highest was item 110 (16.5%).

Category 4

Responses in this category were very low, the lowest in this group (9.2% of the total responses in this group) and very narrowly spread (there was a difference of almost 8 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 4 responses (66.7% of the total responses in this

category) registered below 10% (items 106, 108-110); 2 responses (33.3% of the total responses in this category) were between 10% and 20% (items 105 and 107). The lowest rated item in this category was item 110 (6.2%) and the highest was item 107 (14.5%).

Category 5 (least preferred)

Responses in this category were (21.7% of the total responses in this group) and quite widespread (there was a difference of almost 31 percentage points between the lowest score and the highest score here), this shows that there is some diversity within this category. 4 responses (66.7% of the total responses in this category) scored below 20% (items 106, 108-110); item 105 (16.7% of the total responses in this category) scored 30.2%; item 107 (16.7% of the total responses in this category) contained the highest frequency in this category (44.3%). The lowest rated item in this category was item 110 (12.9%) and the highest was item 107 (44.3%).

In summary, table 5.16 shows the frequencies of responses in this group of ordinal data (in order of high preference to low preference of these items), these indicate that there is widespread rating within the following group of items, which address different types of INSET courses: (105) long-award-bearing courses, (106) short-award-bearing courses, (107) short non-award-bearing courses, (108) workshops and study groups, (109) INSET provision with other school(s), (110) a combination of the above courses. The most preferred item (types of INSET courses) was that of long-award-bearing courses, and the least preferred item was a *combination* of the types of INSET courses listed in this group.

Preferences for the Location of INSET Courses

In this group of items (ordinal data) respondents were asked to indicate *where* teachers would prefer INSET courses to take place. Table 5.17 (the original - unrecoded - data) displays the frequencies and percentages of responses in this group.

Table 5.17 Distribution of frequencies for teachers' preferences for the location of INSET courses.

<i>Variable</i>	1 Most preferred		2		3		4		5 Least preferred		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
112.Own School	649	59.0	134	12.2	52	4.7	72	6.5	193	17.5	1100
113.Other schools	86	7.8	219	19.9	163	14.8	207	18.8	424	38.6	1099
114.Teacher Training College	445	40.5	264	24.0	85	7.7	68	6.2	236	21.5	1098
115.University	324	29.5	246	22.4	101	9.2	96	8.7	331	30.1	1098
116.A combination of the above locations	301	27.4	366	33.3	164	14.9	70	6.4	198	18.0	1099
Overall % of total responses		32.8		22.4		10.3		9.3		25.2	

In order to clarify the specificity and sensitivity of *degree* of preference level in this group of items, the distributions of the responses in the five categories ('1-most preferred' to '5-least preferred') are reported.

Modal scores

Modal scores in this group were distributed in the three categories, ('1', '2' and '5'). There are no items where the modal scores are in the '3' and '4' categories. There were two items (40% of the total 5 rating scale items) where the modal score is '1' (items 112 and 114). Only one item (number 116 - 20% of the 5 rating scale items) was a modal score of '2'. There were 2 items (40% of the 5 rating scale items) where the modal score is '5' (items 113 and 115). These indicate that respondents expressed a preference for locating INSET courses at different places, from high to low preference.

In addition to examination of the modal scores, to emphasise specificity and sensitivity of the results achieved from the data, the responses for each rating scale category ('1-most preferred' to '5-least preferred') are presented as follows:

Category 1 (most preferred)

Responses in this category were high, the highest in this group (32.8% of the total responses in this group) and the scores were widely spread (there was a difference of almost 51 percentage points between the lowest score and the highest score here), this indicates that there is some diversity within this category. Only item 113 (20% of the total responses in this category) registered below 20%; items 115 and 116 (40% of the total responses in this category) were between 20% and 30%; item 114 (20% of the total responses in this category) scored 40.5%; item 112 (20% of the total responses in this category) contained the highest frequency in this category (59%). The lowest rated item in this category was item 113 (7.8%) and the highest was item 112 (59%).

Category 2

Responses in this category were (22.4% of the total responses in this group) and quite narrowly spread (there was a difference of almost 21 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Two responses (40% of the total responses in this category) registered less than 20% (items 112 and 113); 2 responses (40% of the total responses in this category) were between 20% and 30% (items 114 and 115); item 116 (20% of the total responses in this category) contained the highest frequency in this category (33.3%). The lowest rated item in this category was item 112 (12.2%) and the highest was item 116 (33.3%).

Category 3

Responses in this category were very low (10.3% of the total responses in this group) and very narrowly spread (there was a difference of almost 10 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 3 responses (60% of the total responses in this category) registered below 10% (items 112, 114-115); 2 responses (40% of the total responses in this category) were between 10% and 20% (items 113 and 116). The lowest rated item in this category was item 112 (4.7%) and the highest was item 116 (14.9%).

Category 4

Responses in this category were also very low, the lowest in this group (9.3% of the total responses in this group), and the scores were narrowly spread (there was a difference of almost 13 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 4 responses (80% of the total responses in this category) registered below 10% (items 112, 114-116); item 113 (20% of the total responses in this category) contained the highest frequency in this category (18.8%). The lowest rated item in this category was item 114 (6.2%) and the highest was item 113 (18.8%).

Category 5 (least preferred)

Responses in this category were (25.2% of the total responses in this group), and quite narrowly spread (there was a difference of almost 21 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 2 responses (40% of the total responses in this category) registered below

20% (items 112 and 116); item 114 (20% of the total responses in this category) scored 21.5%; items 113 and 115 (40% of the total responses in this category) contained the highest frequencies in this category, were between 30% and 40%. The lowest rated item in this category was item 112 (17.5%) and the highest was item 113 (38.6%).

In summary, table 5.17 shows the frequencies of responses in this group of ordinal data (in order of high preference to low preference of these items), these indicate that there is widespread distribution within the following group of items, which addresses a range of locations of INSET courses: (112) own school, (113) other schools, (114) teacher training college, (115) university, (116) a combination of the above locations. The most preferred items (location of INSET courses) were that of own schools and teacher training colleges; the least preferred location was other schools.

Preferences for Teaching Styles in INSET Courses

In this group of items (ordinal data) respondents were asked to indicate *which teaching styles* teachers felt would be most effective in INSET courses. Table 5.18 (the original - unrecoded - data) displays the frequencies and percentages of responses in this group.

Table 5.18 Distribution of frequencies for teachers' preferences for teaching styles in INSET courses.

<i>Variable</i>	1 Most effective		2		3		4		5 Least effective		Total 100%
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
118.Lectures	310	28.2	314	28.6	143	13.0	112	10.2	220	20.0	1099
119.Seminars (tutorial group)	390	35.5	375	34.2	140	12.8	66	6.0	127	11.6	1098
120.Workshops	382	34.9	294	26.8	166	15.2	75	6.8	178	16.3	1095
121.Micro-teaching sessions	390	35.8	354	32.5	146	13.4	82	7.5	118	10.8	1090
122.Demonstration lessons followed by discussion	567	51.8	334	30.5	81	7.4	42	3.8	70	6.4	1094
123.Radio broadcasts	169	15.4	209	19.1	192	17.5	192	17.5	334	30.5	1096
124.T.V. broadcasts	428	39.2	304	27.8	114	10.4	100	9.2	146	13.4	1092
125.A combination of the above methods	559	51.1	219	20.0	164	15.0	53	4.8	100	9.1	1095
<i>Overall % of total responses</i>		<i>36.5</i>		<i>27.4</i>		<i>13.1</i>		<i>8.2</i>		<i>14.8</i>	

In order to clarify the specificity and sensitivity of *degree* of effectiveness level in this group of items, the distributions of the responses in the five categories ('1-most effective' to '5-least effective') are reported.

Modal scores

Modal scores in this group were distributed in the three categories, ('1', '2' and '5'). There are no items where the modal scores are in the '3' and '4' categories. There were 6 items (75% of the 8 rating scale items) where the modal score is '1' (items 119-122, 124-125). Only one item (number 118 - 12.5% of the total 8 rating scale items) where the modal score is '2'. Only item 123 (12.5% of the total 8 rating scale items) where the modal score is '5'. Respondents expressed a preference for teaching styles in INSET courses with different views on different teaching styles.

In addition to examination of the modal scores, to emphasise specificity and sensitivity of the results achieved from the data, the responses for each rating scale category ('1-most effective' to '5-least effective') are presented as follows:

Category 1 (most preferred)

Responses in this category were high, the highest in this group (36.5% of the total responses in this group), and the scores were quite widely spread (there was a difference of almost 36 percentage points between the lowest score and the highest score here), this indicates that there is some diversity within this category. Item 123 (12.5% of the total responses in this category) scored 15.4%; item 118 (12.5% of the total responses in this category) scored 28.2%; 4 responses (50% of the total responses in this category) were between 30% and 40% (items 119-121, 124); items 122 and 125 (25% of the total responses in this category) contained the highest frequency in this category 51.8%/51.1%. The lowest rated item in this category was item 123 (15.4%) and the highest was item 112 (51.8%).

Category 2

Responses in this category were (27.4% of the total responses in this group), and quite narrowly spread (there was a difference of almost 15 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. Only one response item 123 (12.5% of the total responses in this category) scored less than 20%; 4 responses (50% of the total responses in this category) were between 20% and 30% (items 118, 120, 124-125); 3 responses (37.5% of the total responses in this category) were between 30% and 40% (items 119, 121-122). The lowest rated item in this category was item 123 (19.1%) and the highest was item 119 (34.2%).

Category 3

Responses in this category were low (13.1% of the total responses in this group), and very narrowly spread (there was a difference of almost 10 percentage points between the lowest score and the highest score here), this shows the homogeneity within this group. Only one response item 122 (12.5% of the total responses in this category) registered below 10%; 7 responses (87.5% of the total responses in this category) were between 10% and 20% (items 118-121, 123-125). The lowest rated item in this category was item 122 (7.4%) and the highest was item 123 (17.5%).

Category 4

Responses in this category were very low, the lowest in this group (8.2% of the total responses in this group), and the scores were narrowly spread (there was a difference of almost 14 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 6 responses (75% of the total responses in this category) registered below 10% (items 119-122, 124-125); 2 responses (25% of the total responses in this category) were between 10% and 20% (items 118 and 123). The lowest rated item in this category was item 122 (3.8%) and the highest was item 123 (17.5%).

Category 5 (least preferred)

Responses in this category were (14.8% of the total responses in this group), and quite narrowly spread (there was a difference of almost 24 percentage points between the lowest score and the highest score here), this shows the homogeneity within this category. 2 items (25% of the total responses in this category) registered below 10% (items 122 and 125); 5 responses (62.5% of the total responses in this category) were between 10% and 20% (items 118-121, 124); item 123 (12.5% of the total responses in this category) contained the highest frequency in this category (30.5%). The lowest rated item in this category was item 122 (6.4%) and the highest was item 123 (30.5%).

In summary, table 5.18 shows the frequencies of responses in this group of ordinal data (in order of most effective to least effective of these items), these indicate that there is widespread distribution within the following group of items, which addresses a range of teaching styles in INSET courses: (118) lectures, (119) seminars/tutorial group, (120) workshops, (121) micro-teaching sessions, (122) demonstration lessons followed by discussion, (123) radio broadcast, (124) T.V. broadcasts, (125) a

combination of the above methods. The most effective items (teaching styles in INSET courses) were demonstration lessons followed by discussion and a combination of the styles listed in this group of items; the least effective item was the radio broadcasts style.

Section Two: Crosstabulations of Biographical Details and Difficulties/Views About Professional Effectiveness

Crosstabulation/chi-square statistics were computed between each of the nominal variables (biographical details) and the Likert scale items in each group of ordinal variables in order to ascertain the extent to which the distribution might vary significantly according to particular nominal factors (gender, age group, job status etc.- see tables 5.19-5.26). The intention here was to identify the degree of *consistency* in the ratings regardless of characteristics of the sample themselves and the *relationships* between the nominal factors and each group of items of ordinal variables.

Recoding was undertaken and the data are presented in both the original and recoded form, in order to give added *power to the analysis*, for example, if the same features hold true (e.g. significance levels) across original and recoded data then we can have greater confidence in the results. In addition, running the full range of statistics on recoded data enables one to 'push the analysis as far as it will go' and to match the types of statistics run on the original data, i.e. if we recoded for *positive* reasons (not just negative reasons of low cell frequency - see below), then we ought to run the full range of statistics for these same positive reasons. Data also have been recoded for the possibility of increasing the expected frequencies in a category by combining it with those of another: 'chi-square should not be used when any expected frequency is smaller than 1 or when more than 20 percent of the expected frequencies are smaller than 5' (Bryman and Cramer, 1992: 122).

Attention is drawn to crosstabulated items in each table, which: (a) are *typical examples* of distributions (e.g. of gender); (b) *answer particular research questions*; (c) *confirm* what one might have expected; (d) offer *surprises* - where something was unexpectedly significant/insignificant.

Tables 5.19 a/b to 5.26 a/b provide the statistical results and presented the output from crosstabulation/chi-square tests, which included the significance level and the number of cells with an expected frequency of 5 and less.

Table 5.19a Distribution of interaction between biographical details and difficulties/problems teachers face in their work

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
11. Adequate subject knowledge																				
12. Rate of change and innovation in the curriculum	1		1						2		3	*	3		3	*	3	*	2	
13. Amount of change and innovation in the curriculum			1						2			*	2		1		1		4	
14. Preparation of teachers during their initial training course									1		1	*	1				1		3	
15. Links between initial training and the curriculum in school									3		1	*	3		3	*	3	*	3	
16. Teacher-Inspector relationships									1		1	*	2		2	*	1	*	2	
17. Teaching techniques (methodology and pedagogy)			1						2			*	1		4	*	1	*	1	
18. Opportunities for continued professional development												*			4		1	*	2	
19. Individual differences between students in class									1			*	*		3	*	*	*	3	
20. Assessment and evaluation of students			1									*	1					*		
21. Parents' co-operation with teachers and the school												*						*		
22. Students' standards of achievement /performance												*						*		
23. Class size (number of students in class)	1								3			*	3		2	*	1	*	3	
24. Pupil-Pupil relationships	2		2						4		2	*	4		4		4	*	4	
25. Discipline in school/classroom									2			*	1		3		1			
26. School administration			1						3		2	*	3		4	*	4	*	4	
27. School building/premises									2			*	2		2	*	3	*	3	
28. Teaching resources/facilities/equipment available in school									3			*	3				3	*	1	
29. Non financial incentives/rewards									2			*	2				1	*		
30. Financial incentives			1						1			*	1		*		*	1	*	
Total frequency of significant distributions and cells frequency	3	20	8	20	0	0	6	20	14	20	6	1	15	19	12	10	17	3	14	20
Total percentage of significant distributions and cells frequency	15	100	40	100	00	00	30	100	70	100	30	5	75	95	60	50	85	15	70	100

S = Significance level
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

C.F. = Cells frequency
Empty cell = No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)
* = Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

Crosstabulations of biographical details and difficulties teachers face in their work

In this group of items respondents were asked to indicate what teachers consider to be difficulties that they are experiencing in their work.

Table 5.19a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and difficulties teachers face in their work (ordinal variables). In table 5.19a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) in only five of the ten nominal variables (50% of the total) where the majority of rating scale items were statistically significant (qualification, institution, ANSCT, MLCTBE and location), and some of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to gender, age group, experience, qualification, main subject, institution, ANSCT, MLCTBE and location; however all but 3 of these (main subject, average number of students in the class (es) taught, main level of class (es) taught in basic education) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data. In the case of *job status*, this nominal variable was associated with no statistically significant distributions of rating scale items, but all items (100%) of these insignificant interactions levels were problematic because they contained more than 20% of cells with 5 cases or less.

Overall, when one takes out the data from table 5.19a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data *table 5.19b*) then it appears that the nominal variables gender, age group, experience and main subject seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicate that the rating scale items in this group hold true regardless of these nominal variables. Qualification, institution and location contained significant levels of interactions with regard to these group of rating scale items concerning difficulties teachers face in their work, which require further explanation in the subsequent statistics.

Table 5.19b Distribution of interaction between biographical details and difficulties/problems teachers face in their work

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
11. Adequate subject knowledge			2				2				2	*			2		2			
12. Rate of change and innovation in the curriculum	1		1		1		1		3		2		2		2		3		4	
13. Amount of change and innovation in the curriculum									2		2		2		1		1		4	
14. Preparation of teachers during their initial training course									4				3		4		3		3	
15. Links between initial training and the curriculum in school													1		2		1		2	
16. Teacher-Inspector relationships							1		1				1		4		2		1	
17. Teaching techniques (methodology and pedagogy)	1		1				1		1				2		2		2		2	
18. Opportunities for continued professional development							1		1				2		1		2		2	
19. Individual differences between students in class			1				1													
20. Assessment and evaluation of students											1	*					1			
21. Parents' co-operation with teachers and the school																	2			
22. Students' standards of achievement /performance					1				2				3				2		4	
23. Class size (number of students in class)			1						3		2	*	4		3		4		3	
24. Pupil-Pupil relationships									2						3					
25. Discipline in school/classroom			1		1		1		2		1		3		3		3		4	
26. School administration					1				2				3		2		1		2	
27. School building/premises			1		1				2		2		3		2		3		2	
28. Teaching resources/facilities/equipment available in school									2				3				2			
29. Non financial incentives/rewards																				
30. Financial incentives					1								1		1				1	
Total frequency of significant distributions and cells frequency	2	20	7	20	5	20	7	20	12	20	7	17	14	20	14	20	16	20	13	20
Total percentage of significant distributions and cells frequency	10	100	35	100	25	100	35	100	60	100	35	85	70	100	70	100	80	100	65	100

S. = Significance level
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

C.F. = Cells frequency
Empty cell = No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)
* = Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

Table 5.19b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were much the same as the results in the original data. One main purpose in the recoded table 5.19b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($p \leq 0.05$) on only five of the ten nominal variables listed in table 5.19b (50% of the total) where the majority of rating scale items' interactions were statistically significant for the same five nominal variables in table 5.19a (qualification, institution, ANSCT, MLCTBE and location), even though again one can observe at first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

In short, when one looks at the data from table 5.19b, it appears that there is no problem of low cell frequencies to be taken into consideration and the nominal variables of gender, age group, job status, experience and main subject, seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Qualification, institution, ANSCT, MLCTBE and location seemed to make a difference, where the results contained a large number of significant interactions with the rating scale items concerning difficulties teachers face in their work. These indicate that these variables require further explanation.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.19a) generally match the results from the recoded data (table 5.19b).
- ii. The recoded data clearly overcome the problem of cell frequencies found in the original data. Points i and ii indicate that the results/data are robust.
- iii. The nominal variables gender, age group, job status, experience, main subject, seemed to have a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables.
- iv. The nominal variables qualification, institution, ANSCT, MLCTBE, location contained high numbers of significant levels of distributions with regard to the

group of rating scale items concerning difficulties teachers face in their work, which indicates that these variables require further explanation. (This form will be used as a shorthand throughout this chapter, denoting the limits to this study - indicating where subsequent research and analysis - beyond the scope of this thesis - needs to be undertaken).

Table 5.20a Distribution of interaction between biographical details and activities which teachers are using now to improve their professional effectiveness

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
32. Undertaking personal reading and study	2								2	*	3	*			*		*			*
33. Using modern techniques such as computer, video and media programmes	3								3		3	*	1		1		2	*		
34. Reading specialised textbook(s)	1		1			*			3	*	2	*	2			*	2	*		
35. Attending courses	4		4		3	*	4		4		4		4		4		4		4	
36. Attending workshops and seminars	2		2		2	*	3		3		4	*	4		3		1	*	3	
37. Using modern methods of teaching			2			*	2				1	*					*			
38. Teaching a different groups of students	2		1			*			1						2					
39. Working with other teachers (using observation and discussion)					1	*						*					*			
40. Visiting other schools	4		4		4	*	4		3		4		4		3		3		4	
41. Exchanging information with other institutions	4		3		1	*	1		1		4		3						2	
42. Following up the advice from inspectors	1					*			1	*		*	2	*	*		1	*		
43. Being involved in school discipline and decision-making	3					*	2		3		*	*	3				*			
Total frequency of significant distributions and cells frequency	10	12	7	11	5	0	6	11	10	9	8	4	8	10	5	9	6	4	4	11
Total percentage of significant distributions and cells frequency	83	100	58	92	42	00	50	92	83	75	67	33	67	83	42	75	50	33	33	92

S = Significance level

Empty cell = $p > 0.05$

1 = $p \leq 0.05$

2 = $p \leq 0.01$

3 = $p \leq 0.001$

4 = $p = 0.0000$

C.F. = Cells frequency

Empty cell = No problem of cell frequency as 20% or less of each cell in the original

* = Crosstabs table contains 5 or less cases ($p \leq 20\%$)

= Problem with the result as over 20% of each cell in the original

Crosstabs table contains 5 or less cases ($p > 20\%$)

ANST =

Average Number of Students in the Class (es) Taught

MLCTBE =

Main Level of Class (es) Taught in Basic Education

Crosstabulations of biographical details and activities which teachers are using now to improve their professional effectiveness

In this group of items respondents were asked to indicate what teachers currently do to improve or attempt to improve their professional effectiveness.

Table 5.20a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and activities which teachers are using now to improve their professional effectiveness (ordinal data). In table 5.20a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) for only five of the ten nominal variables listed in table 5.20a (50% of the total) where the majority of rating scale items were statistically significant (gender, age group, qualification, main subject and institution); the nominal variables of experience and MLCTBE contained a moderate number of statistically significant associations with rating scale items; in only three nominal variables the minority of rating scale items were statistically significant (job status, ANSCT and location), and some of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location); however three of these (job status, main subject and MLCTBE) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data.

Overall, when one takes out the data from table 5.20a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data in table 5.20b) then it appears that the nominal variables ANSCT and location seemed to have a low number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender, age group, experience, qualification and institution contained significant levels of interactions with regard to these group of rating scale items concerning activities which teachers are using now to improve their professional effectiveness, which requires further explanation.

Table 5.20b Distribution of interaction between biographical details and activities which teachers are using now to improve their professional effectiveness

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
32. Undertaking personal reading and study	2								2		3	*	1	*		*				*
33. Using modern techniques such as computer, video and media programmes	3								1		3		2		1		2			
34. Reading specialised textbook(s)	1								4		2	*	3				2			
35. Attending courses	4		4		3		4		4		4		4		4		4		4	
36. Attending workshops and seminars	2		2		3		2		1		3		3		3		1		3	
37. Using modern methods of teaching									1											
38. Teaching a different groups of students	2		1		1						2				3					
39. Working with other teachers (using observation and discussion)																				
40. Visiting other schools	4		3		4		3		3		4		4		4		1		4	
41. Exchanging information with other institutions	4		3		2		2		2		4		3		2				2	
42. Following up the advice from inspectors	1								3		*		2				1	*		
43. Being involved in school discipline and decision-making	3								4				3				1			
Total frequency of significant distributions and cells frequency	10	12	5	12	5	12	4	12	10	12	8	9	9	11	6	11	7	10	4	11
Total percentage of significant distributions and cells frequency	83	100	42	100	42	100	33	100	83	100	67	75	75	92	50	92	58	83	33	92

S = Significance level
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

C.F. = Cells frequency
Empty cell = No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)
* = Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

Table 5.20b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were much the same as the results in the original data. One main purpose in the recoded table 5.19b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($p \leq 0.05$) on only five of the ten nominal variables listed in table 5.20b (50% of the total) where the majority of rating scale items' interactions were statistically significant for the nominal variables (gender, qualification, main subject, institution, and MLCTBE), even though again one can observe at first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

In short, when one looks at the data from table 5.20b, it appears that there is no problem of low cell frequencies to be taken in consideration and the nominal variables of age group, job status, experience and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. The nominal variables gender, qualification, main subject, institution, ANSCT and MLCTBE seemed to make a difference, where the results contained a large number of significant interactions with the rating scale items concerning activities which teachers are using now to improve their professional effectiveness. These indicate that these variables require further explanation.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.20a) generally match the results from the recoded data (table 5.20b).
- ii. The recoded data clearly overcome the problem of cell frequencies found in the original data. Points i and ii indicate that the results/data are robust.
- iii. The nominal variables age group, job status, experience and location seemed to have low significant relationships to the responses, which indicate that the majority of rating scale items in this group hold true regardless of these nominal variables.
- iv. The nominal variables gender, qualification, main subject, institution, ANSCT and MLCTBE contained high numbers of significant levels of distributions with regard

to the group of rating scale items concerning activities which teachers are using now to improve their professional effectiveness, which indicates that these variables require further explanation.

Table 5.21a Distribution of interaction between biographical details and activities which teachers feel might help to improve their professional effectiveness in future

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
45. Undertaking personal reading and study	2	*			1	*		*		*		*		*	4	*		*		1
46. Using modern techniques such as computer, video and media programmes																				
47. Reading specialised textbook(s)		*			1	*		*	1	*	2	*	2	*	4	*	4	*		*
48. Attending courses	4		2		2	*	3		2	*	2	*	3	*	1	*		*	3	
49. Attending workshops and seminars	3		1			*	2			*	3	*	3		1	*		*	3	
50. Using modern methods of teaching						*		*		*		*		*		*		*		*
51. Teaching a different groups of students						*				*	1	*			1	*		*		*
52. Working with other teachers (using observation and discussion)						*		*	1	*		*	1	*		*		*		*
53. Visiting other schools	4		3		1	*	3		3		3	*	3	*	1	*	2	*	2	
54. Exchanging information with other institutions	3		2			*	2			*	1	*	1	*		*		*		*
55. Following up the advice from inspectors						*		*		*		*		*	1	*		*		*
56. Being involved in school discipline and decision-making						*		*	1	*		*	2	*		*		*	1	*
Total frequency of significant distributions and cells frequency	5	10	4	6	4	0	4	6	5	4	6	0	8	3	7	0	2	1	6	6
Total percentage of significant distributions and cells frequency	42	83	33	50	33	00	33	50	42	33	50	00	67	25	58	00	17	8	50	50

S = **Significance level**
 Empty cell = $p > 0.05$
 1 = $p \leq 0.05$
 2 = $p \leq 0.01$
 3 = $p \leq 0.001$
 4 = $p \leq 0.0000$

C.F. = **Cells frequency**
 Empty cell = No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)
 * = Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

Crosstabulations of biographical details and activities which teachers feel might help to improve their professional effectiveness in future

In this group of items respondents were asked to indicate how, in future, each item might help teachers to improve their professional effectiveness.

Table 5.21a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and activities which teachers feel might help to improve their professional effectiveness in future (ordinal variables). In table 5.21a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) in only two of the ten nominal variables listed in table 5.21a (20% of the total) where the majority of rating scale items were statistically significant (institution and ANSCT), and most of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location); however six of these (job status, qualification, main subject, institution, ANSCT and MLCTBE) have to be taken with great caution because they contained high numbers of the incidence of low cell frequencies in the cross-tabulated data.

Overall, when one takes out the data from table 5.21a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data *table 5.21b*) then it appears that the nominal variables gender, age group, and experience seemed to have a low number of significant relationships to the responses with regard to the group of rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in future, which indicates that most of the rating scale items in this group hold true regardless of these nominal variables.

Table 5.21b Distribution of interaction between biographical details and activities which teachers feel might help to improve their professional effectiveness in future

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
45. Undertaking personal reading and study programmes	2	*	1		2		2				1	*	1		2		*	*	1	
47. Reading specialised textbook(s)					*		*		*		1	*	2	*	2	*	3	*		*
48. Attending courses	4		2		3		3		3		2	*	4		3		*	*	3	
49. Attending workshops and seminars	3		2		3		2				3		3		3				3	
50. Using modern methods of teaching					*		*				*		*	*	*	*	*	*	*	*
51. Teaching a different groups of students	1										2									
52. Working with other teachers (using observation and discussion)											*		2				*	*	1	
53. Visiting other schools	4		3		3		3		3		4		4		2		3		2	
54. Exchanging information with other institutions	3		2		1		2		2		1		3				2	*		
55. Following up the advice from inspectors					*		*				*		*	*	*	*	*	*	*	*
56. Being involved in school discipline and decision-making					1				3		*		3				1	*	2	
Total frequency of significant distributions and cells frequency	6	11	5	8	6	8	5	8	4	10	7	4	8	8	5	8	4	3	6	8
Total percentage of significant distributions and cells frequency	50	92	42	67	50	67	42	67	33	83	58	33	67	67	42	67	33	25	50	67

S

=

Significance level

Empty cell

=

$p > 0.05$

1

=

$p \leq 0.05$

2

=

$p \leq 0.01$

3

=

$p \leq 0.001$

4

=

$p = 0.0000$

C.F.

=

Cells frequency

Empty cell

=

No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)

*

=

Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT

=

Average Number of Students in the Class (es) Taught

MLCTBE

=

Main Level of Class (es) Taught in Basic Education

Table 5.21b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were almost much the same as the results in the original data. One main purpose in the recoded table 5.21b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($p \leq 0.05$) on only three of the ten nominal variables listed in table 5.21b (30% of the total) where a moderate number of rating scale items' interactions were statistically significant (gender, job status and location), even though again one can observe at first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

When one looks at the data from table 5.21b, it appears that still there is a problem of low cell frequencies with two nominal variables (main subject and MLCTBE) to be taken into consideration and the nominal variables of age group, experience, qualification and ANSCT seemed to have only a small number of significant relationships to the responses with regard to the group of rating scale items, which indicate that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender, job status, institution and location seemed to make a moderate difference, where the results contained a moderate number of significant interactions with the rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in future. These indicate that these variables could require further explanation.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.21a) generally match the results from the recoded data (table 5.21b).
- ii. The recoded data clearly overcome most of the problem of cell frequencies found in the original data. Points i and ii indicate that the results/data are robust.
- iii. The nominal variables age group, qualification and ANSCT seemed to have low significant relationships to the responses, which indicate that the majority of rating scale items in this group hold true regardless of these nominal variables.
- iv. The nominal variables gender, job status, institution and location contained moderately significant levels of distributions with regard to the group of rating scale items concerning activities which teachers feel might help to improve their

professional effectiveness in future, which indicates that these variables might require further explanation.

Table 5.22a Distribution of interaction between biographical details and a range of INSET programming issues which could improve teachers' professional effectiveness

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
58. INSET programmes should enable teachers to carry out new duties	1								2	*	1	*		*	2	*		*		
59. INSET programmes should improve teachers' managerial skills	1							*		*		*	1	*	2	*	1	*		1
60. INSET programmes should provide opportunities to get away from the school environment									1											
61. INSET programmes should help teachers to overcome deficits of initial training				*		*		*	3	*		*	1	*	2	*	3	*		3
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff				*		*		*		*		*		*		*		*		*
63. INSET programmes should be centred on improving teaching methods				*		*		*		*		*		*		*		*		1
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects	1			*		*		*		*		*		*	3	*		*		*
65. INSET programmes should enable teachers to cope with their professional tasks more successfully		*		*		*		*	1	*		*	2	*	2	*		*		2
66. INSET programmes could provide the best possible way of disseminating new ideas		*		*		*		*		*		*		*		*		*		*
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice				*		*		*		*		*		*	2	*		*		2
68. INSET programmes should improve class management skills				*		*		*		*		*		*		*		*		*
69. INSET programmes should provide opportunities to obtain new promotion	3		2	*	2	*	3			*		*		*		*		*		*
70. INSET programmes should focus on topics which teachers think are important				*		*		*		*		*		*		*	2	*		*
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators			1	*		*	1	*		*		*		*		*		*		*
72. INSET programmes should be a continuing process				*		*		*		*		*	1	*	1	*		*		2
73. INSET programmes should help parental involvement in their children's education	2		3	*	3	*	3	*		*		*		*	1	*		*		*
74. INSET programmes should be a high priority in the Libyan education system				*		*		*		*		*		*		*		*		*
75. INSET programmes should focus on improving students' achievements/standards				*		*		*	3	*		*	2	*	1	*	2	*		*
76. INSET programmes should be used to improve the quality and use of assessment of students				*		*		*		*		*		*	2	*		*		1
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems				*		*		*		*		*		*	1	*		*		*
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities				*		*		*		*		*		*	1	*		*		*
79. INSET programmes should be used to benefit from a range of resources in school			1	*	1	*	2	*		*		*		*		*		*		*
80. INSET programmes should not be conducted in a formal way, like college/university courses, but in a more informal fashion				*		*		*		*		*		*		*		*		1

81. INSET programmes should benefit the whole school	2		2	*	3	*	2	*	1	*	*	1	*							
82. INSET programmes should induct new teachers into their schools and the profession		*		*		*	1	*		*		*	*							
83. If teachers were involved in planning INSET programmes, their commitment to them would be greater				*	*	*	*	*	2	*	*	3	*							
84. Every teacher should be required to participate in INSET programmes regularly					1	*		*	1	*	*	1								
85. There should be incentives for attending INSET programmes to encourage teachers' attendance				*	*	*	1	*	*	*	*	*	*							
86. The head teacher should be responsible for INSET in his/her school			1		*	*		*	*	*	*	*	*							
87. Practical techniques are more useful than theory in INSET programmes				*	*	*	*	*	2	*	1	*	1							
88. Teachers should be released during school time to attend INSET programmes where necessary				*		*		*		*										
89. There should be use of educational technology in INSET programmes				*	1	*	*	*	1	*	2	*	2							
90. Inspectors are more qualified than teachers to identify the need for INSET programmes					3	*	*	*	2	*	3	*	3							
91. In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes.					*	*	1	*	*	*	*	*	*							
92. Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance	1			*	*	*	*	*	1	*	2	*	2							
93. Assessment of teachers during INSET activities would undermine the INSET programmes				*		*		*		*										
94. Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject				*		*		*		*										
95. Teachers attending INSET programmes should have teaching experience in the subject	1				1	*	1	*	*	*	*	*	*							
96. Teachers attending INSET programmes should have administrative experience				*	*	*	*	*	*	*	*	*	1							
97. The overall performance of the teacher should be taken into consideration in participation of INSET programmes				*	*	*	*	*	*	*	*	*	*							
Total frequency of significant distributions and cells frequency	8	37	6	13	8	0	9	13	7	9	4	3	13	9	19	4	5	6	16	17
Total percentage of significant distributions and cells frequency	20	93	15	36	20	00	23	36	18	23	10	8	36	23	48	10	13	15	40	43

ANSCT = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

S = Significance level
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

C.F. = Cells frequency
Empty cell = No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)
* = Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

Crosstabulations of biographical details and a range of INSET programming issues which could improve teachers' professional effectiveness

In this group of items respondents were asked to indicate which of these items in this group could improve teachers' professional effectiveness through the provision of INSET.

Table 5.22a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and a range of INSET activities which could improve teachers' professional effectiveness (ordinal variables). In table 5.22a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) in all ten nominal variables listed in table 5.22a where the minority of rating scale items were statistically significant and most (the majority) of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location); however most of these variables (age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data.

Overall, when one takes out the data from table 5.22a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data table 5.22b) then it appears that only the nominal variable gender seemed to have a low number of significant relationships to the responses with regard to the group of rating scale items concerning a range of INSET activities which could improve teachers' professional effectiveness, which indicates that the rating scale items hold true regardless this nominal variable.

Table 5.22b Distribution of interaction between biographical details and a range of INSET programming issues which could improve teachers' professional effectiveness

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
58. INSET programmes should enable teachers to carry out new duties	2														1			*		
59. INSET programmes should improve teachers' managerial skills	1				1						*							*		1
60. INSET programmes should provide opportunities to get away from the school environment					1															
61. INSET programmes should help teachers to overcome deficits of initial training					1				2		1	*	2		3	*	3	*	2	
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff	1		1									*			1			*		
63. INSET programmes should be centred on improving teaching methods												*					*			
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects					1							*			*		*		*	
65. INSET programmes should enable teachers to cope with their professional tasks more successfully						*		*	2			*	2	*	1	*	*	*	3	*
66. INSET programmes could provide the best possible way of disseminating new ideas						*		*				*			*		*	*		*
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice												*			*		*	*	3	
68. INSET programmes should improve class management skills												*			*		*	*		
69. INSET programmes should provide opportunities to obtain new promotion	3				1		1											*		
70. INSET programmes should focus on topics which teachers think are important												*			*		*	*	*	*
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators												*			*		*	*	*	*
72. INSET programmes should be a continuing process			1						1				2		1		*	*	1	
73. INSET programmes should help parental involvement in their children's education	2		3		2		3				*		1		*		*	*		
74. INSET programmes should be a high priority in the Libyan education system											*						*	*		
75. INSET programmes should focus on improving students' achievements/standards	1			*		*	*				*		*		*		*	*	*	*
76. INSET programmes should be used to improve the quality and use of assessment of students						*					*		*		*		*	*	*	*
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems			1	*		*	*				*		*		*		*	*	*	*
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities									2											
79. INSET programmes should be used to benefit from a range of resources in school							1				*						*	*		
80. INSET programmes should not be conducted in a formal way, like college/university courses, but in a more informal fashion									3		*		3		1		1	*	2	

Table 5.22b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were much the same as the results in the original data. One main purpose in the recoded table 5.22b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($p \leq 0.05$) in all ten nominal variables listed in table 5.22b where the minority of rating scale items' interactions were statistically significant for the same nominal variables in table 5.22a, even though again one can observe at first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

In short, when one looks at the data from table 5.22b, it appears that only the nominal variables main subject and MLCTBE still have problem of low cell frequencies to be taken in consideration and the majority of rating scale data hold true regardless of the nominal data recorded. The nominal variables gender, age group, job status, experience, qualification, institution, ANSCT and location seemed to make a small difference, where the results contained a small number of significant interactions with the rating scale items concerning a range of INSET activities which could improve teachers' professional effectiveness. These indicate that the majority of rating scale data hold true regardless of these nominal variables.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.22a) generally match the results from the recoded data (table 5.22b).
- ii. The recoded data almost overcome the problem of cell frequencies found in the original data. Points i and ii indicate the strength of the results/data are robust.
- iii. The nominal variables gender, age group, job status, experience, qualification, institution, ANSCT and location seemed to make a small difference, where the results contained a small number of significant interactions with the rating scale items concerning a range of INSET activities which could improve teachers' professional effectiveness. These indicate generally that the majority of rating scale data hold true regardless of these nominal variables.

Table 5.23a Distribution of interaction between biographical details and teachers' preferences for attendance at INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
98. During school time	1					*					1	*	1		2		1	*		
99. Evenings						*			1				2							
100. Weekends	2					*			1		*	*	2	*	*		*	*		
101. School vacations	1					*					*	*			*		*	*		
102. Summer holidays	1					*					1	*					*	*	1	
103. A combination of the above times					1	*							1				1		1	
Total frequency of significant distributions and cells frequency	4	6	0	6	1	0	0	6	2	6	2	2	4	5	1	4	2	2	2	6
Total percentage of significant distributions and cells frequency	67	100	00	100	17	00	00	100	33	100	33	33	67	83	17	67	33	33	33	100

Table 5.23b Distribution of interaction between biographical details and teachers' preferences for attendance at INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
98. During school time	1										1		2		2		2			
99. Evenings																				
100. Weekends	2				1						*	*	1				*	*		
101. School vacations	1																*	*		
102. Summer holidays	1																		1	
103. A combination of the above times									2				2				1		1	
Total frequency of significant distributions and cells frequency	4	6	0	6	1	6	0	6	1	6	1	5	3	6	1	6	2	4	2	6
Total percentage of significant distributions and cells frequency	67	100	00	100	17	100	00	100	17	100	17	83	50	100	17	100	33	67	33	100

S

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Significance level

Empty cell

=

$p > 0.05$

1

=

$p \leq 0.05$

2

=

$p \leq 0.01$

3

=

$p \leq 0.001$

4

=

$p = 0.0000$

C.F.

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Cells frequency

Empty cell

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No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)

*

=

Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT

=

Average Number of Students in the Class (es) Taught

MLCTBE

=

Main Level of Class (es) Taught in Basic Education

Crosstabulations of biographical details and teachers' preferences for attendance at INSET courses

In this group of items respondents were asked to indicate when teachers would prefer to attend INSET activities.

Table 5.23a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for attendance at INSET courses (ordinal variables). In table 5.23a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) in only two of the ten nominal variables listed in table 5.23a (20% of the total) where the majority of rating scale items were statistically significant (gender and institution), and some of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to nominal variables gender, job status, qualification, main subject, institution, ANSCT, MLCTBE and location; however all but 3 of these (job status, main subject and MLCTBE) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data.

In the cases of *age group and experience* these nominal variables were associated with no statistically significant distributions of rating scale items, and all items (100%) of these insignificant interactions levels have no problem of cell frequencies, which indicate clearly that the rating scale items hold true regardless of these nominal variables.

Overall, when one takes out the data from table 5.23a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data *table 5.23b*) then it appears that the nominal variables qualification, ANSCT and location seemed to have a low number of significant relationships to the responses with regard to the group of rating scale items concerning teachers' preferences for attendance at INSET courses, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender and institution contained significant levels of interactions with regard to these group of rating scale items concerning teachers' preferences for attendance at INSET courses, which requires further explanation.

Table 5.23b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were much the same as the results in the original data. One main purpose in the recoded table 5.23b is clearly to overcome the problem of low cell frequencies, which indicates the strength of the results/data. The ratings vary at a statistically significant level ($p \leq 0.05$) on only two of the ten nominal variables listed in table 5.23b (20% of the total) where the majority of rating scale items' interactions were statistically significant for the same two nominal variables in table 5.23a, (gender and institution), even though again one can observe at first glance the rating scale data hold true regardless of the nominal variables age group, experience, qualification, main subject, ANSCT, MLCTBE and location).

In short, when one looks at the data from table 5.23b, it appears that there is no problem of low cell frequencies to be taken in consideration and the rating scale data hold true regardless of the nominal data recorded. Only the nominal variables of gender and institution seemed to make a difference, where the results contained a number of significant interactions with the rating scale items concerning teachers' preferences for attendance at INSET courses, which indicates that these variables require further explanation.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.23a) generally match the results from the recoded data (table 5.23b).
- ii. The recoded data clearly overcome the problem of cell frequencies found in the original data. Points i and ii indicate the strength of the results/data are robust.
- iii. The rating scale data hold true regardless of the nominal variables age group, experience, qualification, main subject, ANSCT, MLCTBE and location.
- iv. The nominal variables gender and institution contained high numbers of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for attendance at INSET courses, which indicates that these variables require further explanation.

Table 5.24a Distribution of interaction between biographical details and teachers' preferences for types of INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSTC		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
105. Long-award-bearing courses	2				*				1		*					*				
106. Short-award-bearing courses					*						*					*				
107. Short non-award-bearing courses	2				*				3						1					
108. Workshops and study groups					1	*									2		1		1	
109. INSET provision with other school(s)					*				1		1						1			
110. A combination of the above courses					*						*				1					
Total frequency of significant distributions and cells frequency	2	6	0	6	1	0	0	6	3	6	1	3	0	6	3	5	3	4	1	6
Total percentage of significant distributions and cells frequency	33	100	00	100	17	00	00	100	50	100	17	50	00	100	50	85	50	67	17	100

Table 5.24b Distribution of interaction between biographical details and teachers' preferences for types of INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSTC		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
105. Long-award-bearing courses	2																			
106. Short-award-bearing courses																				
107. Short non-award-bearing courses	2																			
108. Workshops and study groups					1				1				1		2				1	
109. INSET provision with other school(s)											1						1			
110. A combination of the above courses									2											
Total frequency of significant distributions and cells frequency	2	6	0	6	1	6	0	6	2	6	1	6	1	6	1	6	1	6	1	6
Total percentage of significant distributions and cells frequency	33	100	00	100	17	100	00	100	33	100	17	100	17	100	17	100	17	100	17	100

S

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Significance level

Empty cell

=

p > 0.05

1

=

p ≤ 0.05

2

=

p ≤ 0.01

3

=

p ≤ 0.001

4

=

p = 0.0000

C.F.

=

Cells frequency

Empty cell

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No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases (p ≤ 20%)

*

=

Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases (p > 20%)

ANSTC

=

Average Number of Students in the Class (es)

MLCTBE

=

Main Level of Class (es) Taught in Basic Education

Crosstabulations of biographical details and teachers' preferences for types of INSET courses

In this group of items respondents were asked to indicate which types of INSET courses teachers would prefer.

Table 5.24a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for types of INSET courses (ordinal variables). In table 5.24a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) in only three of the ten nominal variables listed in table 5.24a (30% of the total) where a moderate number of rating scale items were statistically significant (gender, qualification and MLCTBE), and some of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to nominal variables gender, job status, qualification, main subject, ANSCT, MLCTBE and location; however all but one of these (job status) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data. In the cases of *age group*, *experience* and *institution* these nominal variables were associated with no statistically significant distributions of rating scale items, and all items (100%) of these insignificant interactions levels have no problem of low cell frequency, which indicates that the rating scale items in this group hold true regardless of these nominal variables.

Overall, when one takes out the data from table 5.24a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data *table 5.24b*) then it appears that the nominal variables gender, main subject and location seemed to have a low number of significant relationships to the responses with regard to the rating scale items in this group, which indicate that the majority of rating scale items in this group hold true regardless of these nominal variables. Qualification, ANSCT and MLCTBE contained a moderate number of significant levels of interactions with regard to these group of rating scale items concerning teachers' preferences for types of INSET courses, which might require further explanation.

Table 5.24b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were almost much the same as the results in the original data. One

main purpose in the recoded table 5.24b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($\rho \leq 0.05$) on eight of the ten nominal variables listed in table 5.24b (80% of the total) where the minority of rating scale items' interactions were statistically significant (gender, job status, qualification, main subject, institution, ANSCT, MLCTBE and location), at first glance the rating scale data are distributed significantly very little according to all nominal variables, which indicate that the rating scale data in this group hold true regardless of the nominal data.

In short, when one looks at the data from table 5.24b, it appears that there is no problem of low cell frequencies to be taken in to consideration and the rating scale data generally hold true regardless of the nominal data recorded.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.24a) generally match the results from the recoded data (table 5.24b).
- ii. The recoded data clearly overcome the problem of cell frequencies found in the original data. Points i and ii indicate that the results/data are robust.
- iii. The rating scale data concerning teachers' preferences for types of INSET courses generally hold true regardless of the nominal data recorded.

Table 5.25a Distribution of interaction between biographical details and teachers' preferences for the location of INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
112. Own Schools	4		1		3	*	3		*		3	*	4	*	4	*		*	4	
113. Other schools						*			2				2				1			
114. Teacher Training College	4		2		3	*	3		3		3	*	4		3			*	3	
115. University					3	*			3		1	*	3		1		4	*	2	
116. A combination of the above locations						*						*								
Total frequency of significant distributions and cells frequency	2	5	2	5	3	0	2	5	3	4	3	1	4	4	3	4	2	2	3	5
Total percentage of significant distributions and cells frequency	40	100	40	100	60	00	40	100	60	80	60	20	80	80	60	80	40	40	60	100

Table 5.25b Distribution of interaction between biographical details and teachers' preferences for the location of INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
112. Own Schools	4		2		4		3				4	*	4		4			*	4	
113. Other schools																	1			
114. Teacher Training College	4		3		3		4		3		3		4		4				3	
115. University					1				3		2		3		2		4		2	
116. A combination of the above locations																				
Total frequency of significant distributions and cells frequency	2	5	2	5	3	5	2	5	2	5	3	4	3	5	3	5	2	4	3	5
Total percentage of significant distributions and cells frequency	40	100	40	100	60	100	40	100	40	100	60	80	60	100	60	100	40	80	60	100

S

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Significance level

Empty cell

=

$p > 0.05$

1

=

$p \leq 0.05$

2

=

$p \leq 0.01$

3

=

$p \leq 0.001$

4

=

$p = 0.0000$

C.F.

=

Cells frequency

Empty cell

=

No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)

*

=

Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT

=

Average Number of Students in the Class (es)

MLCTBE

=

Main Level of Class (es) Taught in Basic Education

Taught

Crosstabulations of biographical details and teachers' preferences for the location of INSET courses

In this group of items respondents were asked to indicate where teachers would prefer INSET courses to take place.

Table 5.25a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for the location of INSET courses (ordinal variables). In table 5.25a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) in only five of the ten nominal variables listed in table 5.25a (60% of the total) where the majority of rating scale items were statistically significant (job status, qualification, main subject, institution, ANSCT and location), and some of these significance levels are problematic because the incidence of cell frequencies is 5 cases or less in 20% or more of the cells in each matrix of crosstabulated data. At first glance the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location); however 3 of these (job status, main subject and MLCTBE) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data.

Overall, when one takes out the data from table 5.25a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data *table 5.25b*) then it appears that the nominal variables gender, age group and experience seemed to have low significant relationships to the responses with regard to the rating scale items in this group, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Qualification, institution, ANSCT and location contained high numbers of significant levels of interactions with regard to these group of rating scale items concerning teachers' preferences for the location of INSET courses, which requires further explanation.

Table 5.25b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were much the same as the results in the original data. One main purpose in the recoded table 5.25b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($p \leq 0.05$) on only five of the ten nominal variables listed

in table 5.25b (50% of the total) where the majority of rating scale items' interactions were statistically significant (job status, main subject, institution, ANSCT and location), the rating scale data are distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

In short, when one looks at the data from table 5.25b, it appears that there is no problem of low cell frequencies to be taken in consideration and the nominal variables of gender, age group, experience, qualification and MLCTBE seemed to have only a small number of significant relationships to the responses with regard to the rating scale items in this group, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Job status, main subject, institution, ANSCT and location seemed to make a difference as there was a large number of significant interactions with the rating scale items concerning teachers' preferences for the location of INSET courses, suggesting that these variables require further explanation.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.25a) generally match the results from the recoded data (table 5.25b).
- ii. The recoded data clearly overcome the problem of cell frequencies found in the original data. Points i and ii indicate the strength of the results/data are robust.
- iii. The nominal variables gender, age group, experience, qualification and MLCTBE seemed to have low significant relationships to the responses, which indicate that the majority of rating scale items concerning teachers' preferences for the location of INSET courses hold true regardless of these nominal variables.
- iv. The nominal variables job status, main subject, institution, ANSCT and location contained highly numbers of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for the location of INSET courses, which indicates that these variables require further explanation.

Table 5.26a Distribution of interaction between biographical details and teachers' preferences for teaching styles in INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
118. Lectures					*		1													
119. Seminars (tutorial group)					1	*			1		2	*	2		1		*			
120. Workshops						*							1						1	
121. Micro-teaching sessions						*						*					*			
122. Demonstration lessons followed by discussion	1				*		1		*		*		*		*		*			
123. Radio broadcasts	2				*						1									
124. T.V. broadcasts	1				1	*	2		1		*		1				*			
125. A combination of the above methods	1				*				*		*				2	*	*			
Total frequency of significant distributions and cells frequency	4	8	0	8	2	0	3	8	2	6	2	3	3	7	2	6	0	3	1	8
Total percentage of significant distributions and cells frequency	50	100	00	100	25	00	38	100	25	75	25	38	38	88	25	75	00	38	13	100

Table 5.26b Distribution of interaction between biographical details and teachers' preferences for teaching styles in INSET courses

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.	S	C.F.
118. Lectures							1													
119. Seminars (tutorial group)					1				1		2		2		2		*			
120. Workshops													1						1	
121. Micro-teaching sessions																				
122. Demonstration lessons followed by discussion	1								1		*		1				1	*		
123. Radio broadcasts	2						1				1									
124. T.V. broadcasts	1								2				2				1			
125. A combination of the above methods	1								2								*			
Total frequency of significant distributions and cells frequency	4	8	0	8	1	8	2	8	4	8	2	7	4	8	1	8	2	5	1	8
Total percentage of significant distributions and cells frequency	50	100	00	100	13	100	25	100	50	100	25	88	50	100	13	100	25	63	13	100

S = Significance level
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

C.F. = Cells frequency
Empty cell = No problem of cell frequency as 20% or less of each cell in the original Crosstabs table contains 5 or less cases ($p \leq 20\%$)
* = Problem with the result as over 20% of each cell in the original Crosstabs table contains 5 or less cases ($p > 20\%$)

ANSCT = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

Crosstabulations of biographical details and teachers' preferences for teaching styles in INSET courses

In this group of items respondents were asked to indicate which teaching styles teachers feel would be most effective in INSET courses.

Table 5.26a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for teaching styles in INSET courses (ordinal variables). In table 5.26a (original data) many of the ratings vary at a statistically significant level ($\rho \leq 0.05$). At first glance the rating scale data are distributed significantly differently according to nominal variables, gender, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location; however all but 2 of these (job status and main subject) have to be taken with great caution because of the incidence of low cell frequencies in the cross-tabulated data. In the case of *age group*, this nominal variable was associated with no statistically significant distributions of rating scale items, and all items (100%) of these insignificant interactions levels have no problem of cell frequencies, which indicate that the majority of rating scale items in this group hold true regardless of these nominal variables. In the case of *MLCTBE*, this nominal variable was associated with no statistically significant distributions of rating scale items, but most of these items insignificant interactions levels were problematic because they contained more than 20% of cells with 5 cases or less.

Overall, when one takes out the data from table 5.26a about which great caution must be exercised because of the problem of low cell frequencies (which will be treated in the recoded data *table 5.26b*) then it appears that the nominal variables gender, experience, 'qualification, institution, ANSCT and location seemed to have low significant relationships to the responses with regard to these group of rating scale items, which indicates that the rating scale items concerning teachers' preferences for teaching styles in INSET courses generally hold true regardless of these nominal variables.

Table 5.26b (recoded data) indicates that the results of Crosstabs/chi-square from these recoded data were almost much the same as the results in the original data. One main purpose in the recoded table 5.26b is clearly to overcome the problem of low cell frequencies, which indicates that results/data are strong. The ratings vary at a statistically significant level ($\rho \leq 0.05$) on only three of the ten nominal variables

listed in table 5.26b (30% of the total) where the a moderate number of rating scale items' interactions were statistically significant (gender, qualification and institution), the rating scale data are distributed significantly differently according to the nominal variables gender, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

In short, when one looks at the data from table 5.26b, it appears that there is no problem of low cell frequencies to be taken in consideration and the rating scale data generally hold true regardless of the nominal data recorded.

In summary, it can be concluded here that:

- i. The results from the original data (table 5.26a) generally match the results from the recoded data (table 5.26b).
- ii. The recoded data clearly overcome the problem of cell frequencies found in the original data. Points i and ii indicate that the results/data are robust.
- iii. The nominal variables age group, job status, experience, main subject, ANSCT, MLCTBE and location seem to have low significant relationships to the responses, which indicates that most of the rating scale items concerning teachers' preferences for teaching styles in INSET courses hold true regardless of these nominal variables.
- iv. The nominal variables gender, qualification and institution contained moderate number of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for teaching styles in INSET courses, which indicates that these variables require further explanation.

As a result of the points mentioned here, the rating scale data contained a number of highly significant levels of distributions (made a difference) with nominal data, which require further explanation, and will be analysed further by using more sensitive statistics analysis (the Mann-Whitney and Kruskal-Wallis tests) to give more strength to the chi-square, in the next section (3).

Section Three: Mann-Whitney and Kruskal-Wallis Tests of Significance Between Biographical Details and Difficulties/Views about Professional Effectiveness

In this section the Mann-Whitney U Test of significance of the distributions of data for two variables and the Kruskal-Wallis Test of significant relationships between three or more variables were computed between each of the nominal variables (biographical details) and the Likert scale items in each group of ordinal variables in order to complement the chi-square statistic. The intention of running sensitive statistical analysis (M-W/K-W) here was to identify the significance level of distributions of the nominal factors and each group of items of ordinal variable, to give more specificity/sensitivity/strength to the chi-square results, i.e. to see how the results from M-W/K-W support the chi-square results, where there is large agreement/disagreement.

Recoding was undertaken and the data are presented in both the original and recoded form, in order to give added *power to the analysis*, for example, if the same features hold true (e.g. significance levels) across original and recoded data then we can have greater confidence in the results. In addition, running the full range of statistics on recoded data was undertaken in order to be able to ‘push the analysis as far as it will go’ and to be able to match the types of statistics run on the original data.

Tables 5.27 a/b to 5.34 a/b provide the statistical results of the M-W/K-W Tests, which includes the significance level of distributions and the U-value for the M-W Test. This section reports the main findings from these statistical tests; supporting, supplementary and more detailed but less important crosstabulated data to identify the significant distributions of the characteristics of nominal data with regard to the rating scale factors are reported in Appendices 3-10.

Table 5.27a Distribution of M-W and K-W of biographical details by difficulties/problems teachers face in their work.

VARIABLE	Gender		Age group	Job status	Experience	Qualification	Main subject	Institution	ANST	MLCTBE	Location
	M-W	S									
11. Adequate subject knowledge	1	128569.5	2	1	3	2	4	3	4	4	2
12. Rate of change and innovation in the curriculum	2	126022.5	2		2	1		2	1	1	4
13. Amount of change and innovation in the curriculum	1	124638.5	2		2	2	1	2	2	2	4
14. Preparation of teachers during their initial training course		136848.0			2	4		4	4	4	4
15. Links between initial training and the curriculum in school		132680.0	1		2		2	2	3		3
16. Teacher-Inspector relationships		135593.5				2		1	4	1	1
17. Teaching techniques (methodology and pedagogy)	2	123543.5	1		2			1	4	2	3
18. Opportunities for continued professional development		138012.0			2	2		2	4	2	4
19. Individual differences between students in class		135171.0	1	1	2						
20. Assessment and evaluation of students		131222.5							1		1
21. Parents' co-operation with teachers and the school		135510.0									
22. Students' standards of achievement /performance		134995.5	1			3	1	4	2	4	4
23. Class size (number of students in class)		131974.0	2	1	1	4	2	4	4	4	4
24. Pupil-Pupil relationships		136607.5	1			3		1	3		1
25. Discipline in school/classroom		128835.0	2		1	4	2	4	4	4	4
26. School administration		131072.5	2		1	3		4	3	4	4
27. School building/premises		130919.0	2		1	3		3		3	1
28. Teaching resources/facilities/equipment available in school		136109.0				2		4		2	1
29. Non financial incentives/rewards		133514.0						1			1
30. Financial incentives	1	128548.0						1			1
Total frequency of significant distributions	5		12	3	12	13	6	17	14	13	17
Total percentage of significant distributions	25		60	15	60	65	30	85	70	65	85

Level of Significance
Empty cell = $\rho > 0.05$
1 = $\rho \leq 0.05$
2 = $\rho \leq 0.01$
3 = $\rho \leq 0.001$
4 = $\rho = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

ANST = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and difficulties teachers face in their work

In this group of items respondents were asked to indicate what teachers consider to be difficulties that they are experiencing in their work. Table 5.27a/b (original/recoded data) display the distributions of significant interactions between biographical details (nominal variables) and difficulties teachers face in their work (ordinal variables). In table 5.27a (original data) the ratings vary at a statistically significant level ($\rho \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

Overall Table 5.27a shows that the nominal variables gender, job status and main subject seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Age group, experience, qualification, institution, ANSCT, MLCTBE and location contained a high number of significant levels of interactions with regard to this group of rating scale items concerning difficulties teachers face in their work, which requires further explanation.

Table 5.27b Distribution of M-W and K-W of biographical details by difficulties/problems teachers face in their work.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	M-W		U-V		M-W		U-V		M-W		K-W		K-W		K-W		K-W		K-W	
	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V
11. Adequate subject knowledge		131844.0	3	49833.5	1	49908.5	3	50057.0		143662.5	3		1	3	2					
12. Rate of change and innovation in the curriculum	1	129301.5	2	50943.5		50779.5	2	51470.0	1	139834.5	1		1	2	1				4	
13. Amount of change and innovation in the curriculum	1	125242.5		51497.0		49544.0	1	50400.5	2	131967.0	2		2	1					4	
14. Preparation of teachers during their initial training course		132796.5		55959.5		52117.0		55756.0	4	130224.5			4	4					4	
15. Links between initial training and the curriculum in school		135069.5		56711.0		51294.0		56693.0	1	139942.0			2	3					2	
16. Teacher-Inspector relationships		133280.0	1	52397.5		53750.0	1	51934.0	1	141519.0			3	4					3	
17. Teaching techniques (methodology and pedagogy)	2	126622.0	2	51031.5		51768.5	2	51675.5		141538.5			2	3	1				3	
18. Opportunities for continued professional development		136081.0		53999.5		52533.5	2	52613.0	1	141187.5			3	3					4	
19. Individual differences between students in class		130825.0	2	50928.5		52160.5	2	52013.5		149343.5	1									
20. Assessment and evaluation of students		132188.0		52971.5		53729.0	1	52883.0		144391.0	1								1	
21. Parents' co-operation with teachers and the school		136299.0		54000.0		51943.5		55237.5		148167.0										
22. Students' standards of achievement /performance		133908.0	1	52299.0	1	48523.0	1	52148.0	2	136799.5			3						4	
23. Class size (number of students in class)		130357.5	2	50927.0	1	49264.5	1	52940.0	4	130021.0	1		4	2	2				2	
24. Pupil-Pupil relationships		131883.0	1	52071.5		54204.5		54348.0	2	137185.0				3					1	
25. Discipline in school/classroom		129832.0	2	50802.5	2	47969.5	2	52136.0	2	136925.5			3	2	1				4	
26. School administration	1	129730.0		53300.0	2	47199.5		54831.0	1	140525.0			2	1					2	
27. School building/premises		132499.0	1	51509.0	2	47458.0	1	52599.5	2	136290.0			3						1	
28. Teaching resources/facilities/equipment available in school		132497.5		54830.5		50205.5		55124.5	2	135246.5			3							
29. Non financial incentives/rewards		136116.0		54980.5		52098.0		55919.5		143864.0										
30. Financial incentives		134408.5		52906.0		51550.5		54430.0		148243.0										
Total frequency of significant distributions	4		10		6		12		13		6		14		12		5		14	
Total percentage of significant distributions	20		50		30		60		65		30		70		60		25		70	

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
LCTBE = Main Level of Class (es) Taught in Basic Education

Table 5.27b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.27b indicate that the nominal variables of gender, job status, main subject and MLCTBE seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Age group, experience, qualification, institution, ANSCT and location seemed to make a difference, where the results contained a large number of significant interactions with the rating scale items concerning difficulties teachers face in their work. These indicate that these nominal variables require further explanation. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 3.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that the rating scale items 11, 14-16, 18-25, 27-30 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of gender. Items 12, 13, 17, 26 were statistically significant ($p \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 13-15, 18, 20-21, 26, 28-30 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Items 11-12, 16-17, 19, 22-25, 27 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that the rating scale items 12-21, 24, 28-30 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless

of the characteristic of job status. Items 11, 22-23, 25-27 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 14-15, 21, 24, 26, 28-30 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 11-13, 16-20, 22-23, 25, 27 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 11, 17, 19-21, 29-30 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Items 12-16, 18, 22-28 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category (non school staff); to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), which suggests that the rating scale items 14-18, 21-22, 24-30 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main subject. Items 11-13, 19-20, 23 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), which suggests that the rating scale items 19-21, 24, 29-30 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Items 11-18, 22-23, 25-28 were statistically significant ($p \leq 0.05$), which indicates a significant difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the

remaining data (3 categories), which suggests that the rating scale items 19-22, 27-30 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of ANSCT. Items 11-18, 23-26 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), which suggests that the rating scale items 13-16, 18-22, 24, 26-30 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE. Items 11-12, 17, 23, 25 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), which suggests that the rating scale items 11, 19, 21, 28-30 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of location. Items 12-18, 20, 22-27 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of difficulties that teachers face in their work

The results indicate that:

- 1) The results from the original data (table 5.27a) are only slightly different from the results of recoded data (table 5.27b).
- 2) Gender, job status, main subject and MLCTBE seemed to have a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables.
- 3) Age group, experience, qualification, institution, ANSCT and location contained a high number of significant levels of distributions with regard to the rating scale items concerning difficulties that teachers experience in their work.

Table 5.28a Distribution of M-W and K-W of biographical details by activities which teachers are using now to improve their professional effectiveness.

VARIABLE	Gender		Age group	Job status	Experience	Qualification	Main subject	Institution	ANST	MLCTBE	Location
	M-W	S									
		U-V		K-W	K-W	K-W	K-W	K-W	K-W	K-W	K-W
32. Undertaking personal reading and study	2	124392.0		S	1	2	4	1		1	
33. Using modern techniques such as computer, video and media programmes	2	124132.0	2			1	3	3	3		1
34. Reading specialised textbook(s)	1	127453.0				4	4	4		3	
35. Attending courses	4	108612.5	4	4	4	4	4	4	4	4	4
36. Attending workshops and seminars	3	119224.0	1	3	2	4	4	4	4	1	4
37. Using modern methods of teaching		131981.0	2		2	1		1		1	
38. Teaching a different groups of students	2	122632.5							1	1	
39. Working with other teachers (using observation and discussion)		134361.5									
40. Visiting other schools	4	90216.0	4	4	4	4	4	4	4	2	4
41. Exchanging information with other institutions	4	110427.5	4	3	3	3	4	4	3		3
42. Following up the advice from inspectors	2	124110.5			1	1		3		2	
43. Being involved in school discipline and decision-making	3	122279.5				4	1	4	3	3	2
Total frequency of significant distributions	10		6	4	6	10	8	10	7	9	6
Total percentage of significant distributions	83		50	33	50	83	67	83	58	75	50

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

ANST = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and activities which teachers are using now to improve their professional effectiveness

In this group of items respondents were asked to indicate what teachers currently do to improve or attempt to improve their professional effectiveness. Table 5.28a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and activities which teachers using now to improve their professional effectiveness (ordinal data). In table 5.28a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

Overall Table 5.28a show that only the nominal variable job status seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of this nominal variable. Gender, age group, experience, qualification, main subject, institution, ANSCT, MLCTBE and location contained a moderate or high number of significant levels of interactions with regard to this group of rating scale items concerning activities which teachers are using now to improve their professional effectiveness. This requires further explanation.

Table 5.28b Distribution of M-W and K-W of biographical details by activities which teachers are using now to improve their professional effectiveness.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	K-W	S	K-W	S	K-W	S	K-W	S		
32. Undertaking personal reading and study	2	124392.0			56215.5		54798.5		58102.0	3	132330.0	4	3							
33. Using modern techniques such as computer, video and media programmes	2	124132.0			51724.5	2	45418.0		53404.0	2	135093.0	2	3		1					
34. Reading specialised textbook(s)	1	127453.0			54261.5		53235.5		54209.5	4	120549.5	4	4							
35. Attending courses	4	108612.5	4		38564.0	4	41830.5	4	39930.5	4	88908.5	4	4		4				4	
36. Attending workshops and seminars	3	119224.0	1		51459.5	4	42351.5	1	52278.0	2	134027.0		2						1	
37. Using modern methods of teaching		131981.0			52950.0		53794.0	1	51515.0	1	137180.0		3							
38. Teaching a different groups of students	2	122632.5			55587.5		47487.5		54666.5		145190.0	1			1	2				
39. Working with other teachers (using observation and discussion)		134361.5			57775.5		54298.0		55530.5		147725.5									
40. Visiting other schools	4	90216.0	4		42356.5	4	38584.5	4	43090.0	4	126613.0	4	4						1	
41. Exchanging information with other institutions	4	110427.5	4		43846.0	3	42238.5	4	45015.5	3	129978.0	3	4							
42. Following up the advice from inspectors	2	124110.5			53562.5		50226.5		54976.5	3	132178.0		4							
43. Being involved in school discipline and decision-making	3	122279.5			56300.0		52159.5		58000.0	4	123995.5	2	4		2				3	
Total frequency of significant distributions	10		4			5		5		10		8	10		4	1			4	
Total percentage of significant distributions	83		33			42		42		83		67	83		33	8			33	

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
LCTBE = Main Level of Class (es) Taught in Basic Education

Table 5.28b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.28b indicate that the nominal variables of age group, job status, experience, ANSCT, MLCTBE and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender, qualification, main subject and institution seemed to make a difference, where the results contained a large number of significant interactions with the rating scale items concerning activities which teachers are using now to improve their professional effectiveness. These indicate that these nominal variables require further explanation. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 4.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that the rating scale items 37 and 39 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of gender. Items 32-36, 38, 40-43 were statistically significant ($p \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 32-34, 37-39, 42-43 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Items 35-36, 40-41 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that the rating scale items 32, 34, 37-39, 42-43 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of job status. Items 33, 35-36, 40-41 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 32-34, 38-39, 42-43 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 35-37, 40-41 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 38 and 39 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Items 32-37, 40-43 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), which suggests that the rating scale items 36-37, 39, 42 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of main subject. Items 32-35, 38, 40-43 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), which suggests that the rating scale items 38 and 39 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of institution. Items 32-37, 40-43 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), which suggests that the rating scale items 32, 34, 36-37, 39-42 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of ANSCT. Items 33, 35, 38, 43 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), which suggests that the rating scale items 32-37, 39-43 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE. Only items 38 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), which suggests that the rating scale items 32-34, 37-39, 41-42 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of location. Items 35-36, 40, 43 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of activities which teachers are using now to improve their professional effectiveness

The results indicate that:

- 1) The results from the original data (table 5.28a) are only slightly different from the results of recoded data (table 5.28b).
- 2) Age group, job status, experience, ANSCT, MLCTBE and location seemed to have a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables.
- 3) Gender, qualification, main subject and institution contained a high number of significant levels of distributions with regard to the group of rating scale items concerning activities which teachers are using now to improve their professional effectiveness.

Table 5.29a Distribution of M-W and K-W of biographical details by activities which teachers feel might help to improve their professional effectiveness in the future.

VARIABLE	Gender		Age group	Job status	Experience	Qualification	Main subject	Institution	ANSC	MLCTBE	Location
	M-W	S									
45. Undertaking personal reading and study		U-V	K-W	K-W	K-W	K-W	K-W	K-W	K-W	K-W	K-W
46. Using modern techniques such as computer, video and media programmes	2	132703.3	S	S	S	S	S	S	S	S	S
47. Reading specialised textbook(s)		123815.5				1	1		2	1	2
48. Attending courses	4	136958.0				2		2		2	
49. Attending workshops and seminars	3	112958.5	4	3	4	1	4	3	3		3
50. Using modern methods of teaching	1	118532.0	2	2	2		4	4	3		4
51. Teaching a different groups of students	1	130066.5									
52. Working with other teachers (using observation and discussion)		126123.0		1			1		2		
53. Visiting other schools	4	134693.5				1			3		
54. Exchanging information with other institutions	4	109016.0	4	2	4	2	4	4	2	2	2
55. Following up the advice from inspectors	4	115659.0	3	1	3		2	2			1
56. Being involved in school discipline and decision-making		132381.5		2			2	2			2
Total frequency of significant distributions	7	132105.0	1								
Total percentage of significant distributions	58		5	6	4	5	7	6	5	4	6
			42	50	33	42	58	50	42	33	50

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

ANSC = Average Number of Students in the Class (es) Taught
MLCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and activities which teachers feel might help to improve their professional effectiveness in future

In this group of items respondents were asked to indicate how, in future, each item might help teachers to improve their professional effectiveness. Table 5.29a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and activities which teachers feel might help to improve their professional effectiveness in future (ordinal variables). In table 5.29a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location).

Overall Table 5.29a shows that the nominal variables age group, experience, qualification, ANSCT and MLCTBE seemed to have only a small number of statistically significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Gender, job status, main subject, institution and location contained a high or moderate number of significant levels of interactions with regard to this group of rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in future. This requires further explanation.

Table 5.29b Distribution of M-W and K-W of biographical details by activities which teachers feel might help to improve their professional effectiveness in the future.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject	Institution	ANSCT	MLCTBE	Location
	M-W	U-V	M-W	U-V	M-W	U-V	M-W	U-V	M-W	U-V	K-W	S	K-W	S	K-W
45. Undertaking personal reading and study		138604.0		57298.5		54001.5		57780.0		149921.5					
46. Using modern techniques such as computer, video and media programmes	3	127642.0	2	52452.0	2	48715.5	2	52379.0		149665.5			1		
47. Reading specialised textbook(s)		137582.5		57318.5		54058.5		57796.0		147490.5	1	2	1		
48. Attending courses	4	121605.0	3	50582.0	4	45663.0	3	50331.0	4	135400.5		4			2
49. Attending workshops and seminars	3	122749.0	1	51719.5	4	44013.0	2	51219.5		142441.5					
50. Using modern methods of teaching		136730.0		57614.0		53927.5		58105.5		149529.5					
51. Teaching a different groups of students	1	128039.0		56257.0		52842.5		57173.0		144315.5	2				
52. Working with other teachers (using observation and discussion)		137183.0		55711.0		53990.0		55261.0		144322.0		1			
53. Visiting other schools	4	112145.5	4	46327.0	3	45238.0	4	45794.5	4	130880.5	4	3		1	
54. Exchanging information with other institutions	4	121315.5	2	49894.5	1	49065.0	2	51185.0	3	137163.5	1	3			
55. Following up the advice from inspectors		135221.0		54690.5		51287.0		54576.5		145339.0					
56. Being involved in school discipline and decision-making		133430.5	1	54647.0	1	50752.0	1	54497.0	2	141919.0		2			
Total frequency of significant distributions	6		6		6		6		4		4	6	2	1	1
Total percentage of significant distributions	50		50		50		50		33		33	50	17	8	8

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
LCTBE = Main Level of Class (es) Taught in Basic Education

Table 5.29b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.29b indicate that the nominal variables of qualification, main subject, ANSCT, MLCTBE and location seemed to have only a small number of statistically significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender, age group, job status, experience and institution seemed to have a moderate number of statistically significant interactions with the rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in future. These indicate that these nominal variables require further explanation. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 5.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that the rating scale items 45, 47, 50, 52, 55-56 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of gender. Items 46, 48-49, 51, 53-54 were statistically significant ($p \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 45, 47, 50-52, 55 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Items 46, 48-49, 53-54, 56 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that the rating scale items 45, 47, 50-52, 55 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of job status. Items 46, 48-49, 53-54, 56 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 45, 47, 50-52, 55 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 46, 48-49, 53-54, 56 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 45-47, 49, 50-52, 55 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Items 48, 53-54, 56 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), which suggests that the rating scale items 45-46, 48-50, 52, 55-56 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main subject. Items 47, 51, 53-54 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), which suggests that the rating scale items 45-46, 49-51, 55 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Items 47-48, 52-54, 56 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), which suggests that the rating scale items 45, 48-56 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of ANSCT. Only items 46 and 47 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), which suggests that the rating scale items 45-52, 54-56 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE. Only item 53 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), which suggests that the rating scale items 45-47, 49-56 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of location. Only item 48 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of activities which teachers feel might help to improve their professional effectiveness in future

The results indicate that:

- 1) The results from the original data (table 5.29a) are only slightly different from the results of recoded data (table 5.27b).
- 2) Qualification, main subject, ANSCT, MLCTBE and location seemed to have a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables.
- 3) Gender, age group, job status, experience and institution contained a high number of significant levels of distributions with regard to the group of rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in future.

Table 5.30a Distribution of M-W & K-W of biographical details by range of INSET programming issues which could improve teachers' professional effectiveness.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCT		MLCTBE		Location	
	M-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S
58. INSET programmes should enable teachers to carry out new duties	1																			
59. INSET programmes should improve teachers' managerial skills																				
60. INSET programmes should provide opportunities to get away from the school environment	1																			
61. INSET programmes should help teachers to overcome deficits of initial training																				
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff																				
63. INSET programmes should be centred on improving teaching methods																				
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects	1																			
65. INSET programmes should enable teachers to cope with their professional tasks more successfully																				
66. INSET programmes could provide the best possible way of disseminating new ideas																				
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice																				
68. INSET programmes should improve class management skills																				
69. INSET programmes should provide opportunities to obtain new promotion	3																			
70. INSET programmes should focus on topics which teachers think are important																				
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators	1																			
72. INSET programmes should be a continuing process																				
73. INSET programmes should help parental involvement in their children's education	3																			
74. INSET programmes should be a high priority in the Libyan education system																				
75. INSET programmes should focus on improving students' achievements/standards																				
76. INSET programmes should be used to improve the quality and use of assessment of students																				
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems																				
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities																				
79. INSET programmes should be used to benefit from a range of resources in school																				

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and a range of INSET programming issues which could improve teachers’ professional effectiveness

In this group of items respondents were asked to indicate which items in this group could improve teachers’ professional effectiveness through the provision of INSET.

Table 5.30a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and a range of INSET activities which could improve teachers’ professional effectiveness (ordinal variables). In table 5.30a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Overall Table 5.30a shows that all the nominal variables gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location seemed to have only a small number of statistically significant relationships to the responses with regard to this group of rating scale items concerning a range of INSET activities which could improve teachers’ professional effectiveness. This indicates that the rating scale items in this group hold true regardless of these nominal variables.

Table 5.30b Distribution of M-W and K-W of biographical details by range of INSET programming issues which could improve teachers' professional effectiveness.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	M-W	U-V	M-W	S	U-V	S	M-W	S	U-V	M-W	S	K-W	K-W	S	K-W	K-W	S	K-W	K-W	S
58. INSET programmes should enable teachers to carry out new duties	2	128311.0			57799.0		52478.5		58111.5	1	143304.5		1		1					
59. INSET programmes should improve teachers' managerial skills		133760.0			58175.5		54764.5		57779.0		147455.0									
60. INSET programmes should provide opportunities to get away from the school environment		129862.0			52664.0	1	46426.0		54776.0		142634.5									
61. INSET programmes should help teachers to overcome deficits of initial training		137551.0			56287.5	2	49547.0		56127.0	3	139792.0		2		3					2
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff	2	129992.0	2		51959.0	1	49624.0		54137.0		145768.0									
63. INSET programmes should be centred on improving teaching methods		136815.5			57651.0		52749.0		56894.5	1	141951.0									1
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects		137255.5			56553.5	1	50722.0		56465.0		146427.5									
65. INSET programmes should enable teachers to cope with their professional tasks more successfully		135894.0			56238.0		52584.0		56698.5	1	145580.0		1		2					4
66. INSET programmes could provide the best possible way of disseminating new ideas		136948.5			57511.5		52802.0		57942.0		147341.0									
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice		132164.0			55952.0		53200.0		57372.0	1	141531.5				1					3
68. INSET programmes should improve class management skills		134101.5			55790.0		53288.5		56747.0		145337.5									1
69. INSET programmes should provide opportunities to obtain new promotion	2	124329.0			53869.0	2	47241.0		52834.5		144625.0									
70. INSET programmes should focus on topics which teachers think are important		136493.5			57259.5		53473.0		55985.0		145598.0	1		1						3
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators	1	132447.5			57272.0		52185.0		57078.5		144385.0									
72. INSET programmes should be a continuing process		134892.5	1		52042.0	1	49761.0		54528.0	1	140214.5			1						1
73. INSET programmes should help parental involvement in their children's education	3	127011.5	4		49153.5	2	48012.0	3	49646.0		147617.0									
74. INSET programmes should be a high priority in the Libyan education system	1	131141.5			55206.5		51975.0		57003.0		147255.0	1								
75. INSET programmes should focus on improving students' achievements/standards	2	133600.0			57866.5		54661.0		57777.0		148123.0		1		1					
76. INSET programmes should be used to improve the quality and use of assessment of students		137940.0			57322.0	1	52006.5		57684.0		149367.0									
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems		137702.0	1		55156.5	1	52487.0		56637.0		149835.5				1					
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities		138617.0			56371.5		51418.5		56653.0	2	139788.5		1							
79. INSET programmes should be used to benefit from a range of resources in school		136965.5			54828.5		53313.0	2	52793.5		148923.5									

80.	INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion	137847.0		55668.0		50811.0		56497.0	2	141336.0		2		2		2
81.	INSET programmes should benefit the whole school	132934.0	2	54066.5	2	50336.5		55796.5		145812.5		1				
82.	INSET programmes should induct new teachers into their schools and the profession	138393.0		57105.0		54478.5		57006.0		147307.5			2			1
83.	If teachers were involved in planning INSET programmes, their commitment to them would be greater	137266.5		54639.0	2	49062.5		57042.0	2	142019.0			1			2
84.	Every teacher should be required to participate in INSET programmes regularly	130885.0	2	50996.5	2	47393.0		54306.0		147227.0						
85.	There should be incentives for attending INSET programmes to encourage teachers' attendance	138094.0		57896.5		54820.0		58600.5		148107.5						2
86.	The head teacher should be responsible for INSET in his/her school	134132.0		56038.5		53341.5		57083.0		144222.5			1			
87.	Practical techniques are more useful than theory in INSET programmes	136646.0		55996.0		51779.0		55687.0	1	144740.0		1				2
88.	Teachers should be released during school time to attend INSET programmes where necessary	134506.5		57421.5		54075.0		53874.0		147390.5			1			1
89.	There should be use of educational technology in INSET programmes	132738.0	1	53096.0	1	50716.5	2	53390.0		146327.0						2
90.	Inspectors are more qualified than teachers to identify the need for INSET programmes	136874.0	1	52237.5	4	42165.5	1	52710.0		146895.0	1				1	
91.	In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes	136630.5		56981.0		53034.0		57181.5		146130.0		1				1
92.	Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance	133513.5	1	56586.0		52435.5		55814.0	2	142980.0		2				1
93.	Assessment of teachers during INSET activities would undermine the INSET programmes	131560.0		55390.5	2	46927.5		58248.0		142952.5						
94.	Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject	134863.5		55385.5		49432.0		56464.5	2	133237.5	1	2				
95.	Teachers attending INSET programmes should have teaching experience in the subject	126469.5	2	50623.5		49927.5	2	51172.5		141355.5						
96.	Teachers attending INSET programmes should have administrative experience	136776.5		56706.0		51645.0		56888.0		145254.0						
97.	The overall performance of the teacher should be taken into consideration in participation of INSET programmes	137109.5		57973.5		53292.5		57007.5		146569.0			2			1
Total frequency of significant distributions		10	9		15		5		12		4	13	33	33	5	16
Total percentage of significant distributions		25	23		38		13		30		10	33	33	33	5	40

Level of Significance
 Empty cell = $p > 0.05$
 1 = $p \leq 0.05$
 2 = $p \leq 0.01$
 3 = $p \leq 0.001$
 4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
LCTBE = Main Level of Class (es) Taught in Basic Education

Table 5.30b (recoded data) indicates that the ratings vary at a statistically significant level ($\rho \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.30b indicate that all the nominal variables gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items concerning a range of INSET activities which could improve teachers' professional effectiveness. This indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 6.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that the rating scale items 59-61, 63-68, 70, 72, 76-80, 82-91, 93-94, 96-97 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of gender. Items 58, 62, 69, 71, 73-75, 81, 92, 95 were statistically significant ($\rho \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 58-61, 63-71, 74-76, 78-80, 82-83, 85-88, 91-94, 96-97 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Items 62, 72-73, 77, 81, 84, 89-90, 95 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that the rating scale items 58-59, 63, 65-68, 70-71, 74-75, 78-80, 82, 85-88, 91-92, 94-97 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of job status. Items

60-62, 64, 69, 72-73, 76-77, 81, 83-84, 89-90, 93 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 58-72, 74-78, 80-88, 91, 92-94, 96-97 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 73, 79, 89, 90, 95 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 59-60, 62, 64, 66, 68-71, 73-77, 79, 81-82, 84-86, 88-91, 93, 95-97 were not statistically significant ($p > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Items 58, 61, 63, 65, 67, 72, 78, 80, 83, 87, 92, 94 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), where the rating scale items 58-69, 71-73, 75-89, 91-93, 95-97 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main subject. Items 70, 74, 90, 94 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), where the rating scale items 59-60, 62-64, 66-69, 71, 73-74, 76-77, 79, 82-86, 88-90, 93, 95-97 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Items 58, 61, 65, 70, 72, 75, 78, 80-81, 87, 91-92, 94 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 59-60, 62-64, 66, 68-71, 73-74, 76, 78-79, 81, 84-85, 87, 89-96 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of ANSCT. Items 58, 61, 65, 67, 72, 75, 77, 80, 82-83, 86, 88, 97 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), where the rating scale items 58-69, 71-89, 91-97 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of main MLCTBE. Only items 70 and 90 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 58-60, 62, 64, 66, 69-71, 73-79, 81, 84, 86, 90, 93-96 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of location. Items 61, 63, 65, 67-68, 72, 80, 82-83, 85, 87-89, 91-92, 97 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between locations.

Summary of a range of INSET programming issues which could improve teachers' professional effectiveness

The results indicate that:

- 1) The results from the original data (table 5.30a) are only slightly different from the results of recoded data (table 5.30b).
- 2) Gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items concerning a range of INSET activities which could improve teachers'

professional effectiveness. This indicates that the majority of rating scale items in this group hold true regardless of these nominal variables.

Table 5.31a Distribution of M-W and K-W of biographical details by teachers' preferences for attendance at INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		MLCTBE		Location	
	M-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S
58. During school time	2	123756.5									1							
59. Evenings	1	128897.0									1		2					
60. Weekends	3	121955.5	1															
61. School vacations	2	123319.0	2				2										1	
62. Summer holidays	2	123693.0					2										1	
63. A combination of the above times		135832.5						1				2			2		1	
Total frequency of significant distributions	5		2		0		2		1		2		2		0		1	3
Total percentage of significant distributions	83		33		0		33		17		33		33		0		17	50

Table 5.31b Distribution of M-W and K-W of biographical details by teachers' preferences for attendance at INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSCIT		MLCTBE		Location	
	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S
98. During school time	2	123756.5			53425.5		49754.0		53850.0		149888.0	1								
99. Evenings	1	128897.0			52711.5		49469.5		52690.0		141596.0	1								
100. Weekends	3	121955.5			55850.0		54380.5		56955.5		140873.0									
101. School vacations	2	123319.0			52404.0		53919.5	1	51775.5		148354.0								1	
102. Summer holidays	2	123693.0			53685.5		52590.0		54961.0		145606.5				1		1			
103. A combination of the above times		135832.5	1		50852.0		50104.0	2	49948.5	2	135636.5		2						2	
Total frequency of significant distributions	5		1					2					2		1		1		1	2
Total percentage of significant distributions	83		17		0		33				17		17		17		17		33	

Level of Significance
 Empty cell = $p > 0.05$
 1 = $p \leq 0.05$
 2 = $p \leq 0.01$
 3 = $p \leq 0.001$
 4 = $p \leq 0.0000$

S = Significance level
 M-W = Mann-Whitney U Test
 U-V = U-Value
 K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
 LCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and teachers' preferences for attendance at INSET courses

In this group of items respondents were asked to indicate when teachers would prefer to attend INSET activities. Table 5.31a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for attendance at INSET courses (ordinal variables). In table 5.31a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Overall Table 5.31a shows that most of the nominal variables (age group, job status, experience, qualification, main subject, institution, ANSCT and MLCTBE) seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Only the nominal variables of gender and location contained a high and moderate number of significant levels of interactions with regard to this group of rating scale items concerning teachers' preferences for attendance at INSET courses, which requires further explanation.

Table 5.31b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.31b indicate that most of the nominal variables (age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location) seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Only the nominal variable of gender seemed to make a difference, where the results contained a large number of significant interactions with the rating scale items concerning teachers' preferences for attendance at INSET courses. This indicates that this nominal variable require further explanation. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 7.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that only rating scale item 103 was not statistically significant ($\rho > 0.05$), which indicates that this item hold true regardless of gender. Items 98-102 were statistically significant ($\rho \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 98-102 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Only items 103 was statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that all the rating scale items 98-103 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of job status.

Experience

The M-W Test suggests that the rating scale items 98-100, 102 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 101 and 103 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 98-102 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Only items 103 was statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), where the rating scale items 100-102 were not

statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main subject. Items 98 and 99 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), where the rating scale items 98-102 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Only item 103 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 98-101, 103 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of ANSCT. Only items 102 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), where the rating scale items 98-101, 103 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE. Only items 102 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 98-100, 103 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of location. Items 101 and 102 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of teachers' preferences for attendance at INSET courses

The results indicate that:

- 1) The results from the original data (table 5.31a) are only slightly different from the results of recoded data (table 5.31b).
- 2) Most of the nominal variables (age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location) seemed to have a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables.
- 3) Only the nominal variable of gender contained a high number of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for attendance at INSET courses.

Table 5.32a Distribution of M-W and K-W of biographical details by teachers' preferences for types of INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	M-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S	K-W	S
105. Long-award-bearing courses	1	126298.5					1													1
106. Short-award-bearing courses		131963.0													1	2				
107. Short non-award-bearing courses	3	120077.5									1			1						
108. Workshops and study groups		129358.5	1						1				1	1	1	1	1	1	2	
109. INSET provision with other school(s)		132349.5									1									
110. A combination of the above courses	2	124247.0					1	2					1				1	1	2	
Total frequency of significant distributions	3				0	2	2	2	2	2	2	2	3	3	3	3	3	3	3	
Total percentage of significant distributions	50		17	0	33	33	33	33	33	33	33	33	33	50	50	50	50	50	50	

Table 5.32b Distribution of M-W and K-W of biographical details by teachers' preferences for types of INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S	M-W	S
105. Long-award-bearing courses	1	126298.5		52479.0	1	47648.0	1	51124.0		149583.0										
106. Short-award-bearing courses		131963.0		56600.5	1	48959.5		56886.5		141670.5					1	2				
107. Short non-award-bearing courses	3	120077.5		54291.0		48921.5		54761.0		146535.5	1									
108. Workshops and study groups		129358.5		53596.0		49547.0		53398.5	2	135335.5			2	2	2				1	
109. INSET provision with other school(s)		132349.5		53775.0		52382.5		53531.5		140690.5	1						1			
110. A combination of the above courses	2	124247.0		53818.0		53273.0		55816.0	4	128836.0			2	1	1				2	
Total frequency of significant distributions	3		0		2		1		2		2		2	2	3	2	2	2	2	
Total percentage of significant distributions	50		0		33		17		33		33		33	33	50	33	33	33	33	

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
LCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and teachers' preferences for types of INSET courses

In this group of items respondents were asked to indicate which types of INSET courses teachers would prefer. Table 5.32a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for types of INSET courses (ordinal variables). In table 5.32a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Overall Table 5.32a shows that the nominal variables age group, job status, experience, qualification, main subject and institution seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Gender, ANSCT, MLCTBE and location contained a moderate number of significant levels of interactions with regard to this group of rating scale items concerning teachers' preferences for types of INSET courses, which requires further explanation.

Table 5.32b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.32b indicate that most of the nominal variables (age group, job status, experience, qualification, main subject, institution, MLCTBE and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, i.e. that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender and ANSCT seemed to have a moderate number of significant interactions with the rating scale items concerning teachers' preferences for types of INSET courses. These indicate that these nominal variables require further explanation. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 8.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that the rating scale items 106, 108-109 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of gender. Items 105, 107, 110 were statistically significant ($\rho \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that all the rating scale items 105-110 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of age group.

Job status

The M-W Test suggests that the rating scale items 107-110 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of job status. Items 105 and 106 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 106-110 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Only item 105 was statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 105-107, 109 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Items 108 and 110 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), where the rating scale items 105-106, 108, 110 were not statistically significant ($\rho > 0.05$). These items hold true regardless of the characteristic of main subject. Items 107 and 109 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), where the rating scale items 105-107, 109 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Items 108 and 110 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 105, 107, 109 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of ANSCT. Items 106, 108, 110 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), where the rating scale items 105, 107-108, 110 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE. Items 106 and 109 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 105-107, 109 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of location. Items 108 and 110 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of teachers' preferences for types of INSET courses

The results indicate that:

- 1) The results from the original data (table 5.32a) are only slightly different from the results of recoded data (table 5.32b).
- 2) Age group, job status, experience, qualification, main subject, institution, MLCTBE and location had only a small number of significant relationships to the responses with regard to this group of rating scale items, i.e. that the majority of rating scale items in this group hold true regardless of these nominal variables.
- 3) Gender and ANSCT seemed to have a moderate number of significant interactions with the rating scale items concerning teachers' preferences for types of INSET courses.

Table 5.33a Distribution of M-W and K-W of biographical details by teachers' preferences for the location of INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	M-W		K-W		K-W		K-W		K-W		K-W		K-W		K-W		K-W		K-W	
	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V
112. Own Schools	4				4		4		1		4		4		4				4	
113. Other schools									2						1					
114. Teacher Training College	4				4		4		3		4		4		4				4	
115. University	1				1		1		4		1		3		3				2	
116. A combination of the above locations																				
Total frequency of significant distributions	3				3		3		4		3		3		3				3	
Total percentage of significant distributions	60				60		60		80		60		60		60		20		60	

Table 5.33b Distribution of M-W and K-W of biographical details by teachers' preferences for the location of INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANST		MLCTBE		Location	
	M-W		K-W		M-W		M-W		M-W		K-W		K-W		K-W		K-W		K-W	
	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V
112. Own Schools	4	110349.0	3	48411.0	4	40235.0	4	46579.0	2	137006.5	1		3		3				1	
113. Other schools		132967.0		57324.0		52511.5		57976.5	1	139728.0										
114. Teacher Training College	4	109664.5	4	43383.5	4	41146.0	4	40542.5	4	128876.5			3		3					
115. University	1	127989.5		53837.5	2	46873.5		52712.5	4	128079.5			3						1	
116. A combination of the above locations		136804.5	1	51069.5		53318.0	1	51266.5		148512.5										
Total frequency of significant distributions	3		3		3		3		4		1		3		2		0		2	
Total percentage of significant distributions	60		60		60		60		80		20		60		40		0		40	

Level of Significance
Empty cell = $p > 0.05$
1 = $p \leq 0.05$
2 = $p \leq 0.01$
3 = $p \leq 0.001$
4 = $p = 0.0000$

S = Significance level
M-W = Mann-Whitney U Test
U-V = U-Value
K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught
LCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and teachers' preferences for the location of INSET courses

In this group of items respondents were asked to indicate where teachers would prefer INSET courses to take place. Table 5.33a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for the location of INSET courses (ordinal variables). In table 5.33a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Overall Table 5.33a shows that the nominal variables and MLCTBE seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Gender, job status, experience, qualification, main subject, institution, ANSCT and location contained a high number of significant levels of interactions with regard to this group of rating scale items concerning teachers' preferences for the location of INSET courses, which requires further explanation.

Table 5.33b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.33b indicate that the nominal variables of main subject, ANSCT, MLCTBE and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender, age group, job status, experience, qualification and institution seemed to make a difference, where the results contained a large number of significant interactions with the rating scale items concerning teachers' preferences for the location of INSET courses. These indicate that these nominal variables require further explanation. More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 9.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that the rating scale items 113 and 116 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of gender. Items 112, 114-115 were statistically significant ($\rho \leq 0.05$), which indicate a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 113 and 115 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Items 112, 114, 116 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that the rating scale items 113 and 116 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of job status. Items 112, 114-115 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 113 and 115 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 112, 114, 116 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that only the rating scale item 116 was not statistically significant ($\rho > 0.05$), which indicates that this item hold true regardless of the characteristic of qualification. Items 112-115 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the

remaining data (8 categories), where the rating scale items 113-116 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main subject. Only item 112 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between main subjects.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), where the rating scale items 113 and 116 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Items 112, 114-115 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 113, 115-116 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of ANSCT. Items 112 and 114 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), which suggests that all the rating scale items 112-116 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 113-114, 116 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of location. Items 112 and 115 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of teachers' preferences for the location of INSET courses

The results indicate that:

- 1) The results from the original data (table 5.33a) are only slightly different from the results of recoded data (table 5.33b).
- 2) Main subject, ANSCT, MLCTBE and location seemed to have a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables.
- 3) Gender, age group, job status, experience, qualification and institution contained a high number of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for the location of INSET courses.

Table 5.34a Distribution of M-W and K-W of biographical details by teachers' preferences for teaching styles in INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSTCT		MLCTBE		Location	
	M-W		K-W		K-W		K-W		K-W		K-W		K-W		K-W		K-W		K-W	
	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V
118. Lectures		135993.5																		
119. Seminars (tutorial group)		135407.5	1						2				1		1				1	
120. Workshops		133895.0			1				2		1		2		1				2	
121. Micro-teaching sessions	1	125656.0											1							
122. Demonstration lessons followed by discussion	2	124037.0	2		1		2										2		2	
123. Radio broadcasts	2	122248.0																		
124. T.V. broadcasts	1	125972.0					1		2				2		2		2		1	
125. A combination of the above methods	1	125852.0							1				3		3		4		4	
Total frequency of significant distributions	5		2		2		2		4		1		4		3		4		4	
Total percentage of significant distributions	63		25		25		25		50		13		50		38		50		50	

Table 5.34b Distribution of M-W and K-W of biographical details by teachers' preferences for teaching styles in INSET courses.

VARIABLE	Gender		Age group		Job status		Experience		Qualification		Main subject		Institution		ANSTCT		MLCTBE		Location	
	M-W		K-W		M-W		M-W		M-W		K-W		K-W		K-W		K-W		K-W	
	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V	S	U-V
118. Lectures		135993.5		57549.0		52775.5		57021.5	2	136080.0										
119. Seminars (tutorial group)		135407.5		53201.0	1	47201.0	1	51329.5	1	139520.0										
120. Workshops		133895.0		51747.0	1	46799.5		53801.5	2	135923.0		1								
121. Micro-teaching sessions	1	125656.0		56105.0		51690.5		55336.5		146973.0										
122. Demonstration lessons followed by discussion	2	124037.0		53193.0		50552.0		53900.0	2	135867.5		2							1	
123. Radio broadcasts	2	122288.0		53986.0		53669.5		52437.0		139634.5										
124. T.V. broadcasts	1	125972.0	2	49240.5		49669.5	1	50095.0	3	128581.0		3							1	
125. A combination of the above methods	1	125852.0		56218.0		52238.0		55669.5	2	134788.5		2			1				2	
Total frequency of significant distributions	5		1		2		2		6		0		4		1		0		2	
Total percentage of significant distributions	63		13		25		25		75		0		50		13		0		25	

Level of Significance

- Empty cell = $p > 0.05$
- 1 = $p \leq 0.05$
- 2 = $p \leq 0.01$
- 3 = $p \leq 0.001$
- 4 = $p \leq 0.0000$

S = Significance level

M-W = Mann-Whitney U Test

U-V = U-Value

K-W = Kruskal-Wallis Test

NSCT = Average Number of Students in the Class (es) Taught

MLCTBE = Main Level of Class (es) Taught in Basic Education

The Mann-Whitney and Kruskal-Wallis Tests of biographical details and teachers' preferences for teaching styles in INSET courses

In this group of items respondents were asked to indicate which teaching styles teachers feel would be most effective in INSET courses. Table 5.34a/b (original/recoded data) displays the distributions of significant interactions between biographical details (nominal variables) and teachers' preferences for teaching styles in INSET courses (ordinal variables). In table 5.34a (original data) the ratings vary at a statistically significant level ($p \leq 0.05$) when one can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Overall Table 5.34a shows that the nominal variables age group, job status, experience, main subject and ANSCT seemed to have low significant relationships to the responses with regard to this group of rating scale items, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Gender, qualification, institution, MLCTBE and location contained a high and moderate number of significant levels of interactions with regard to this group of rating scale items concerning teachers' preferences for teaching styles in INSET courses, which requires further explanation.

Table 5.34b (recoded data) indicates that the ratings vary at a statistically significant level ($p \leq 0.05$). One can observe the rating scale data being distributed significantly differently according to all nominal variables (gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location). Table 5.34b indicate that the nominal variables of age group, job status, experience, main subject, ANSCT, MLCTBE and location seemed to have only a small number of significant relationships to the responses with regard to this group of rating scale items, which indicates that the majority of rating scale items in this group hold true regardless of these nominal variables. Gender, qualification and institution seemed to make a difference, where the results contained a large and moderate number of significant interactions with the rating scale items concerning teachers' preferences for teaching styles in INSET courses. These indicate that these nominal variables require further explanation.

More detailed reviews of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale factors in this group are reported in Appendix 10.

In examining the M-W and K-W Tests for each nominal variable with regard to each rating scale item, the following results can be noted:

Gender

The M-W Test suggests that rating scale items 118-120 were not statistically significant ($\rho > 0.05$), i.e. that these items hold true regardless of gender. Items 121-125 were statistically significant ($\rho \leq 0.05$), indicating a difference of responses between male and female.

Age group

The M-W Test suggests that the rating scale items 118-123, 125 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of age group. Only item 124 was statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between age groups.

Job status

The M-W Test suggests that the rating scale items 118, 121-125 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of job status. Items 119 and 120 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between job status.

Experience

The M-W Test suggests that the rating scale items 118, 120-123, 125 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of experience. Items 119 and 124 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between experience.

Qualification

The M-W Test suggests that the rating scale items 121 and 123 were not statistically significant ($\rho > 0.05$), which indicates that these items hold true regardless of the characteristic of qualification. Items 118-120, 122, 124-125 were statistically significant ($\rho \leq 0.05$), which indicates a difference of responses between qualifications.

Main subject

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (8 categories), which suggests that all the rating scale items 118-125 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main subject.

Institution

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent M-W Test was run on the remaining data (2 categories), where the rating scale items 118-119, 121, 123 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of institution. Items 120, 122, 124-125 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between institutions.

Average number of students in the class (es) taught (ANSCT)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 118-124 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of ANSCT. Only items 125 was statistically significant ($p \leq 0.05$), which indicates a difference of responses between ANSCT.

Main level of class (es) taught in basic education (MLCTBE)

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (4 categories), which suggests that all the rating scale items 118-125 were not statistically significant ($p > 0.05$). These items hold true regardless of the characteristic of main MLCTBE.

Location

The original K-W Test was run on data that included a 'no data' category; to exclude the effect of this category it was removed and a subsequent K-W Test was run on the remaining data (3 categories), where the rating scale items 118-121, 123, 125 were not statistically significant ($p > 0.05$). These items hold true regardless of the

characteristic of location. Items 122 and 124 were statistically significant ($p \leq 0.05$), which indicates a difference of responses between locations.

Summary of teachers' preferences for the location of INSET courses

The results indicate that:

- 1) The results from the original data (table 5.34a) are only slightly different from the results of recoded data (table 5.34b).
- 2) Age group, job status, experience, main subject, ANSCT, MLCTBE and location seemed to have a low number of significant relationships to the responses, i.e. that the rating scale items in this group hold true regardless of these nominal variables.
- 3) Gender, qualification and institution seemed to make a difference, as the results contained a large and moderate number of significant interactions with the rating scale items concerning teachers' preferences for teaching styles in INSET courses.

The implication and significance of the data reported in this chapter will be discussed in the chapter six.

CHAPTER

6

DISCUSSION AND INTERPRETATION

Introduction

Management and change command huge attention in their own right and occupy centre stage in the professional development of educationists at all levels. The main issue here is that change has to contribute effectively to the professional needs and growth of teachers in the Libyan education system. Dalin *et al* (1993) argued that 'effective change commences, and is in response to, real needs and felt needs' (p.134). This chapter discusses the data in relation to educational change - an important feature of the thesis. This chapter does not rehearse data in chapter five they speak for themselves; it discusses them using the lenses of change and needs analysis.

(Morrison, 1998: 15) states that 'successful change is about successful management; successful management is about managing successful change'.

The rate and scale of change in education could only have been made possible by a combination of external pressure and internal response from dedicated teachers committed to trying to make the changes work successfully in schools.

The 'quality in education' debate leaves us with the conundrum that quality of teaching depends on the quality of the teachers which, in turn, depends to some extent on the quality of their professional development. The major aim of the investigation was to identify the role of INSET in managing change and innovation in schools, helping teachers to improve their professional effectiveness to meet their professional needs. The requirement of assessing and analysing these issues needs to identify problems, content, methods, concepts, resources, administration and structure of the education system, and consequently to plan, prioritise and operationalise the needs for

change. Needs analysis is a necessary precursor to effective change; effective change occurs in response to felt needs and meets real needs (Burnes, 1996; Morrison, 1998).

The issue of needs assessment also requires planners to assess the size of the needs, the priorities for the needs, the numbers of people who are likely to be affected, the consequences if the needs are not met, how the needs can and should be met, the resources required to meet the needs, how to operationalise needs (Morrison, 1998).

This chapter is concerned with these issues of needs and the requirement to identify, assess and analyse them. It uses this needs analysis from Morrison as a referent in the subsequent discussion. It discusses and interprets the main issues which emerge from the data analysis with regard to the studies reviewed in the literature in answering the following main research questions:

- I. What are the relationships between biographical and professional information and views about INSET providing a descriptive breakdown of characteristics of the sample?
- II. What do teachers consider to be the difficulties that they are experiencing in their work?
- III. What do teachers do currently to improve or attempt to improve their professional effectiveness?
- IV. What do teachers feel might need to be done if their part in the education system is to improve?
- V. What is the role of INSET in meeting teachers individual and the system's needs for greater effectiveness in a time of change?
- VI. What are the perceptions, opinions and preferences of teachers towards INSET in Libya?
- VII. How can INSET be most effectively managed to improve education in Libya?

The sequence of this chapter will be presented in sections 1-4 in order to reflect the priority of the questions, and follows the sequence of the previous chapter as follows.

1. Difficulties that teachers experience in their work;
2. Improving teachers' professional effectiveness at present;
3. Improving teachers' professional effectiveness in the future;

4. Perceptions, opinions and preferences of teachers toward INSET in Libya;

Difficulties that teachers face in their work

Although the focus of the thesis deals with change and INSET in Libya, this was underpinned by a series of contextual issues from which a number of aspects emerged as significant. The range of the following items is wide, indicating that difficulties lie in many fields:

1. Adequate subject knowledge;
2. Rate of change and innovation in the curriculum;
3. Amount of change and innovation in the curriculum;
4. Preparation of teachers during their initial training course;
5. Links between initial training and the curriculum in school;
6. Teacher-inspector relationships;
7. Teaching techniques (methodology and pedagogy);
8. Opportunities for continuing professional development;
9. Individual differences between students in class;
10. Assessment and evaluation of students;
11. Parents' co-operation with teachers and the school;
12. Students' standards of achievement /performance;
13. Class size (number of students in class);
14. Pupil-pupil relationships;
15. Discipline in school/classroom;
16. School administration;
17. School building/premises;
18. Teaching resources/facilities/equipment available in school;
19. Non- financial incentives/rewards;
20. Financial incentives.

Identifying the top five priorities from this list reveals the following order (from table 5.11b):

Parental co-operation with teachers and the school (1st – 79.5%);

Opportunities for continuing professional development (2nd – 79.1%);

Links between initial training and the curriculum in school (3rd – 78.4%);

Discipline in the school/classroom (4th – 77.5%);

School administration (5th – 76.8%).

However, it must be stressed that the percentage spread between the top eighteen of these is less than 10 %, and the overall spread is some 18%, hence it is, perhaps, invidious to try to identify a clear set of highest priorities – they are all high priorities.

The significance of education is deep seated in Libya. Constrained by the country's natural resources, Libyan planners for many years have placed priority on the development of the country's human resources, through education and training. Given Libya's huge geographical area, approximately two million square kilometres, with a relatively small size of population (approximately five million people), Libya has a high percentage of children in schools. The geographical distribution of the population is uneven, with varying population densities scattered over large areas. This situation has led to an increase in expenditure. According to The People's Committee for Education and Scientific Research (1994), education expenditure increased from 135.4 million Libyan Dinars in 1990/91 to 162.6 million Dinars in the financial year 1992/93, i.e. approximately a 20% increase.

Societies with rapid growth rates tend to suffer heavy burdens caused by their attempt to make educational services available to all segments of the population (The People's Committee for Education and Scientific Research, 1994). Rapid growth rates are caused by the fact that birth rates exceed mortality rates, thus causing a significant change in the demographic structure, increasing the younger groups (0-14 years). Change in society is inescapable and uncertainty is the order of the day; it is incumbent on schools to respond to and prepare for this (Morrison, 1998). Even more, the rise in births puts even greater pressure on education and can risk lowering standards, therefore, there is an increasing need to ensure the CPD of teachers, and makes the task of change even greater.

Libya has one of the highest population growth rates in the world. During the period 1973-84, the growth rate for the Libyan population reached 4.2%, whereas it registered 3.9% for the period 1984-94, thus the ratio for the younger generation (0-14 years old) reached 51.4% in 1973, and was slightly lower in 1989, registering 49.9%, in 1994 the ratio was expected to reach 49.2% (The People's Committee for Education and Scientific Research, 1994). This means that about half of the Libyan population is young, a fact that increases the burden on the productive sectors of the population. In other words, the policy of mass education requires larger numbers of teachers and

educational workers to be fully allocated to the teaching sectors, which increases the demand for change and the needs for CPD and INSET to manage this change.

According to The People's Committee for Education and Scientific Research (1994), the size of the population at educational age (6-24) has increased from 854,000 in 1973 to 1,569,000 in 1984, and to 2,151,000 in 1993. The number of persons in the age-group parallel to basic education (6-14 years) has increased from 549,000 in 1973 to 921,000 in 1984, and reached 1,203,000 by 1993. Such increases have created imbalances in the ratio of basic school age children and the number of teachers needed. This imbalance is increasing. Thus, in 1973 for each economically active adult (age group 15-64 years) there were seven children; in 1984 for each economically active adult there were six children, and in 1993, for each economically active adult there were five children.

The usual adult-child ratio in developing countries reaches 3 persons per child and in advanced countries it reaches 5 to 1 (The People's Committee for Education and Scientific Research, 1994). This means that in a country like Libya the adult-child ratio makes educational services far more costly and the task of managing these changes and teachers training even more huge.

If we assume that the ratio of pupils to teachers is 30 pupils per teacher as a typical ratio and that the general objective is that all children in the age group 6-14 years must be enrolled in schools, we must have one person from each 49 persons of the total workforce as a full-time teacher in 1984, rising in 1993 to one person from each ten persons, i.e. one teacher out of each ten persons in the total workforce. Table 6.1 shows the developments in the number of classes, students and teachers in Teacher Training Institutions for the period 1990/91 - 1993/94 (The People's Committee for Education and Scientific Research, 1994).

Table 6.1 Developments in the number of classes, students and teachers in Teacher Training Institutions for the period 1990/91 - 1993/94.

School year	No. of classes	Number of students			Number of teachers			Class size
		<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Libyans</i>	<i>Non-Libyans</i>	<i>Total</i>	
1990/91	1,564	12,940	30,193	43,142	1,357	1,949	3,306	27.5
1991/92	1,224	8,599	25,690	34,289	1,595	2,093	3,688	28
1992/93	1,043	4,931	21,462	26,393	-	-	2,760	25
1993/94	-	5,530	23,595	29,125	-	-	-	-

The high investment in education has helped the country to expand its public services, industry and develop its agriculture but, more importantly, it has enabled the country to place its well-qualified workforce. The resulting inflow of natural resources (oil as the major resource) has contributed substantially to Libya's economic growth. But explosive demands for human capital development through education resulted in mushrooming enrolments, and a putative qualitative decline in the standards at schools, because teachers and teaching are not changing or being updated sufficiently to meet changing demands in society.

From the data (table 5.11b) there is a general pattern among educational workers that indicates a high level of agreement (72.4% of the sample) that the twenty items listed earlier comprise difficulties that teachers experience in their work. This also confirms the view of the researcher that teachers face many difficulties in their work. This requires planners to assess and analyse these difficulties/issues which need to be overcome to meet teachers' needs on a wide variety of fronts.

The data (table 5.27b) show that there was a high number of distributions of statistically significant relationships between the nominal variables age group, experience, qualification, institution, average number of students in the class(es) taught (ANSCT), location and the group of rating scale items concerning difficulties that teachers experience in their work in general. A possible explanation for this is that the teaching force has largely been in post since before major changes, therefore there is a need to update them, and that therefore, experience of, and abilities to cope with change is limited. These factors are very important in meeting the demands of change, i.e. they tend to influence strongly a person's ability to meet new developments and innovations. The nominal variables gender, job status, main subject and main level of class(es) taught in basic education (MLCTBE) had a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables, i.e. that the issues are widely held across the sample. These variables are less problematic than length of service, in that they do not constitute a reason for inertia or reluctance to change. It is worth noting here that there are no statistically significant relationships between the problems, issues, needs and the nominal variables, i.e. that the matters still exist regardless of the nominal variables, i.e. they are widespread.

There is a near consensus that the expansion of education in the past years has not, in general, been accompanied by a corresponding improvement in quality and has even been achieved at the expense of the latter. Accompanying this was the inadequate allocation of resources to provide the required new facilities and new technology to accommodate expanded enrolments. As a result, the education system produced thousands of ill-equipped students at all levels. The rate/amount of change and innovation in the curriculum, unqualified and poorly motivated teachers, teaching large numbers of pupils along traditional lines, have become the norm in most cases. To remedy the situation, the country needs a change in the field to reorganise and inject a new vitality into the education system to meet its needs, i.e. to invest in the human capital development of its teachers as well as its students. 'Change can be regarded as a dynamic and continuous process of development and growth that involves a reorganisation in response to 'felt need' (Morrison, 1998: 13). Education in Libya has not proved sensitive to the demands for change in the sector, and this has become even more urgent over the past few years with the changes in social, economic and political situations in the country. The situation represents a crisis which has to be dealt with, as Fullan (1993) states that when a crisis occurs you have to deal with it, i.e. the need is urgent. Educational workers realised that a total reform of the system of education in all its aspects is necessary if the numerous difficulties confronting education in Libya are to be overcome. The aims, content, methods, concepts, administration and structure of education should be reorganised and changed if education in Libya is to find its sense of direction to meet its needs.

A number of reasons for the findings can be advanced to explain why the several strata of the sample (e.g. university lecturers, teachers, inspectors, administrators, principals) all identified the similar problems that teachers face such difficulties in school. These can be summarised as follows:

- 1) *Centralisation*: the first difficulty that appears in the organisation and administration of the provision of INSET is that of its centralisation. This is a reflection of the educational system, and the public administration as a whole. Many educational workers believe that it is very dangerous to give the responsibility for provision of INSET to one organisation. The necessities of different providers have been not taken into consideration by the central authority.

- 2) *Unsystematic provision*: a few INSET programs in Libya are offered from time to time on an *ad hoc* basis. It appears that the providers tend to arrange the types of courses as the need for temporary target changes. The problem exists that rarely are such courses part of a long-term developmental strategy or plan.
- 3) *Schools and teachers are excluded from planning* or implementing the INSET activities, which are designed to meet their needs. The related literature reveals the importance of involving schools and teachers in INSET activities.
- 4) *Short courses have no credit or financial incentives*, while upgrading courses offer both credit and financial incentives to the teachers. This discrimination caused a high level of poor attendance and dissatisfaction among the teachers attending short courses.
- 5) There is a *lack of integration* between schools' curricula, and the contents of INSET curricula are left sometimes to one person/group to plan. It consists of scattered unconnected courses usually taught by the lecture method.
- 6) *The rate of change and innovation* is placing a greater requirement on teaching, yet INSET is not responsive enough to these.
- 7) There is *no real co-ordination* between the schools and the providers to direct the courses of INSET to deal with the real problems in schools.
- 8) There is *no real evaluation* of INSET programs in Libya, and there is no systematic follow-up of INSET trainees to keep up with change and innovation demands.

With regard to the needs analysis identified at the start of this chapter, the needs are great, the priorities are wide-ranging, the numbers of people affected are vast, the consequences of not meeting the needs impact significantly on the economic growth of the country and the resources required to meet the needs are large.

Improving teachers' professional effectiveness at present

The previous section suggested that difficulties, needs and issues do exist in many fields and the requirement of change is inevitable. Because the research conducted to date has tended to dwell on the contents of change and INSET activity, it is appropriate at this particular juncture to pay more attention to the ways that conceptualise the outcome of teachers' action in continuing their professional

development, i.e. some of the processes of meeting change, in order to find out what is the action that teachers have been taking in the field and what do they do currently to overcome such difficulties in an attempt to improve their professional effectiveness.

The range of the following items is very wide, indicating that activities for continuing professional development lie in many fields in order to meet the demands of change and innovation (recognising, of course, that teachers may undertake activities in the following list for reasons other than INSET and continuing professional development):

1. Undertaking personal reading and study;
2. Using modern techniques such as computer, video and media programmes;
3. Reading specialised textbook(s);
4. Attending courses;
5. Attending workshops and seminars;
6. Using modern methods of teaching;
7. Teaching a different groups of students;
8. Working with other teachers (using observation and discussion);
9. Visiting other schools;
10. Exchanging information with other institutions;
11. Following up the advice from inspectors;
12. Being involved in school discipline and decision-making.

In terms of the four highest frequencies observed were (from table 5.12, combining the two categories from that table of 'a very great deal' and 'quite a lot'):

Following up the advice from inspectors (1st – 82.1%);

Undertaking personal reading and study (2nd – 74.2%);

Reading specialised textbooks (3rd – 72.3%);

Being involved in school discipline and decision-making (4th – 62.8%).

However it must be stated that the other elements were close and bunched. Further, it must be stressed that there is a very high frequency recorded against the categories of 'a little', 'very little', and 'not at all' in this table, indicating overall that teachers did *not* engage in personal/professional development to any significant degree.

The extensive review of literature pertaining to CPD shows that, until recently, there had been a comprehensive theory of successful CPD / INSET activity. However, over the last 10 years in the UK, the organisation and processes involved in the

implementation of CPD provision have been the subject of a substantial amount of research and analysis (e.g. Hall and Oldroyd, 1988; McBride, 1989; Webb, 1989; Galloway, 1989; Harland, 1990; Harland and Kinder, 1992; Day, 1993; Harland *et al*, 1993; Bolam, 1994; Eraut, 1994; Law and Glover, 1995; McMahon and Ballard, 1995; Steadman *et al*, 1995; Wright and Bottery, 1996; Day, 1997; Fullan *et al*, 1998). Discussions have tended to distinguish between two sets of needs that are relevant to the needs analysis in this investigation: the needs of the teachers and the needs of the education system.

There is little doubt that CPD is an essential factor in ensuring that schools are staffed by suitably qualified and experienced teachers, i.e. to contribute to human capital development and human resource development. However, CPD in the past was not adequate to achieve its objectives because teachers felt that the CPD activities did not meet their needs. Teachers' needs must be placed in a wider context, which includes school needs and national needs. Day's (1993) conceptualisation of a teacher's 'personal development profile', takes 'account of the need to address individual and system needs differentially over time, and to provide an appropriate balance of opportunity to ensure continuity and progression' (p.25). This highlights the case for identifying needs and designing CPD experiences from each individual's learning perspective. The researcher agrees that to be effective, CPD should be planned on the basis of teachers' needs and with their involvement in a wide range of activities towards schools' and society's needs. Freiberg and Jerome (1977) states that:

A truly effective programme incorporates teacher concerns and stated needs, community and institutional needs which increase the professional universe of each individual (Freiberg and Jerome 1977: 58-9).

Draper *et al* (1997) argue that:

The rhetoric of continuing professional development is a regular refrain in debates about teachers at work. The assumption is that to keep pace with change teachers must change and develop their practice in reflective and constructive ways (Draper *et al.*, 1997: 283-295).

INSET in early periods was based on a *deficit perspective*, built on the assumption that teachers had weaknesses in their teaching, or gaps in their knowledge that required correction. INSET was perceived as a way to correct a defect, rather than as a normal growth process of CPD. There is a need for an additional change to this perspective as

teachers need to improve their professional growth through CPD; INSET will still be necessary in Libya because there continues to be a deficiency in people/education. INSET also must have the role of promoting development to keep up with new change demand, i.e. there are needs to solve problems and to develop teachers.

In reviewing the literature, several major trends were observed: a move from a compensatory to a complementary view of INSET, a progression from a discrete to a continuous view of CPD, a shifting from a relatively simple to a complex view of CPD, and from a narrow range of CPD activities controlled by school administrators and/or university lecturers to a collaborative governance, including the teachers. In addition, no single pattern of CPD provision is likely to be appropriate for all educational workers and all teachers in all schools. The complexity of teachers' needs and requirements for professional effectiveness and CPD require a variety of provisions and approaches, which lead to change in this field.

From the findings (table 5.12), teachers were greatly concerned about improving their professional development; the vast majority of the sample (79.4%) considered that teachers were aware of and used the group of items (activities) listed above, but at different levels (in order from a very great deal to very little), and a minority of the sample (20.6%) considered that teachers did not use the group of items at all.

Professional development is an essential act of professional responsibility, done in the cause of considering needs and issues for change. It is done for the purpose of understanding better how these needs might be met.

The data (table 5.12) also indicate that the most used items (activities) for developing teachers were (1) following up the advice from inspectors, (2) undertaking personal reading and study, (3) reading specialised textbook(s). A possible reason for using these activities is that they accord with the way in which the education system works and the most traditional methods that exist in the educational system. The least used items for teachers were (1) attending workshops and seminars, (2) using modern techniques such as computer, video and media programmes. These confirm such a lack of using major activities, which indicates the need for change to illuminate what teachers currently do and what they need in the future to plan and prioritise the needs.

The data (table 5.28b) show that the nominal variables gender, qualification, main subject and institution contained a high number of significant levels of distributions with regard to the group of rating scale items concerning activities which teachers are

using now to improve their professional effectiveness. A possible explanation for this is that some teachers may have been in post since before major changes occurred, therefore there is a need to update them, and that therefore, experience of, and abilities to cope with change is limited. These factors are very important in meeting the demands of change, i.e. they tend to influence strongly a person's ability to meet new developments and innovations. The nominal variables age group, job status, experience, ANSCT, MLCTBE and location had a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables. It is worth mentioning that overall there are few significant relationships between the issues/needs and the nominal variables, i.e. that the issues are widely held across the sample and still exist regardless of the nominal variables. This suggests that the priority needs and other process needs apply to everyone in the education system.

CPD activities in Libya were described and analysed. The teachers mainly depend on personal activities (e.g. reading, observation, teaching different group of student, co-operating with other teachers and inspectors). Also, Universities and Higher Teacher Training Colleges are the major providers of INSET courses. INSET policies assigned highest priority to the training of unqualified teachers and basic education teachers, through upgrading programs at the Higher Teacher Training Colleges and Universities to obtain higher qualifications (Degree/Diploma) for promotion. The provider, through its training section and the supervisors at the directorates of education, is responsible for remedial and updating programs. School inspectors usually recommend the INSET activities that are to be attended. Short courses have been the responsibility of head trainers at the local education authority, who were assigned to develop and implement the curricula in co-operation with staff members nominated and approved by them. This situation should be changed because it is rarely that the head trainers will be suitably qualified to develop a curriculum alone. INSET, properly needs to be more varied, carefully thought through, and must meet teachers' and schools' needs. However, short courses often lack incentives, functionality, and flexibility. Recruitment was virtually coercive and the lecture method was dominant.

The Higher Teacher Training Colleges and Universities have little effect on the schools to be sure that teachers can apply what they have learned; teachers feel that lecturers are out of touch with what is going on in schools. The influence of the lecture method in most of the upgrading courses and the remoteness of the course

organisers from teachers and schools made the courses too theoretical and academic. The head teachers and inspectors are usually responsible for the follow-up of the trainees, but they agree that there had been very little follow-up of training, and that little INSET had been undertaken, especially in the secondary schools.

With regard to the needs analysis identified at the start of this chapter, there is, then, a large need, that is very urgent, for carefully targeted, differentiated, and wide ranging CPD for all teachers, with the providers needing to improve the quality, content and delivering of CPD.

Improving teachers' professional effectiveness in the future

The two previous sections dealt with difficulties that exist in the field and the action which has been taken by the teachers to overcome these difficulties and to continue their professional development to meet their professional needs. It is important that in terms of research to assess and identify the outcomes of the teachers' thinking, planning and practice, it is necessary also to make explicit what professional learning principles are embodied in them if their part in the education system is to improve and to add to their knowledge and skills of professional needs. This section, building on the results of the previous sections, will address what do teachers feel might need to be done if their part in the education system is to improve. The needs are pressing urgent and will not go away for the foreseeable future. The range of the following items is very wide, indicating that these activities lie in many fields in order to meet the demands of change and CPD:

1. Undertaking personal reading and study;
2. Using modern techniques such as computer, video and media programmes;
3. Reading specialised textbook(s);
4. Attending courses;
5. Attending workshops and seminars;
6. Using modern methods of teaching;
7. Teaching a different groups of students;
8. Working with other teachers (using observation and discussion);
9. Visiting other schools;
10. Exchanging information with other institutions;
11. Following up the advice from inspectors;
12. Being involved in school discipline and decision-making.

In terms of priorities the following were the highest rated elements recorded (from table 5.13b):

Undertaking personal reading and study (1st – 98.6%);

Reading specialised textbooks (2nd – 97.9%);

Using modern methods of teaching (3rd – 95.8%);

Following up the advice from inspectors (4th – 92.7%).

To assess and plan for an effective programme for teacher professional development. This set of activities reflects what teachers consider they need and the lines they would like professional development to take.

When change in education is incurred, one important way of understanding the change process in schools is through the experiences and biographies of teachers. As argued by Goodson (1990):

Particularly in the world of teachers' development the central ingredient so far missing is the teacher's voice. Primarily the focus has been on the teacher's practice, almost the teacher as practice, what is needed is a focus that listens above all to the person at whom 'development' is aimed (Goodson, 1990: 141-42).

As indicated early in this chapter the study considered teachers' indications of their priority needs, identifying contents, methods, resources, concepts, size and administration of INSET activities which teachers should have in continuing their professional development to meet their professional needs.

The finding (table 5.13b) revealed a significant measure of agreement amongst teachers and educational workers that all the above CPD activities are important in the future for continuing professional effectiveness, and the vast majority of the sample (84.4%) considered that the group of items might help teachers in future to improve their professional effectiveness.

The data (table 5.29b) indicate that the nominal variables of gender, age group, job status, experience and institution contained a high number of significant levels of distributions with regard to the group of rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in the future. A possible explanation for this is that some teachers may have been in post since before major changes occurred, therefore there is a need to update them, and that therefore, experience of, and abilities to cope with change is limited. These factors are very

important in meeting the demands of change, i.e. they tend to influence strongly a person's ability to meet new developments and innovations. The nominal variables qualification, main subject, ANSCT, MLCTBE and location had a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables. It is worth mentioning that overall there are few significant relationships between the issues/needs and the nominal variables, i.e. that the issues are widely held across the sample. This suggests that the priority needs and other needs apply to everyone in the education system.

[Y]et research tells us that if *continuing professional development* is to be effective, it must extend beyond the immediate needs of school and classroom practice, such that support for the personal and long-term professional needs of the teacher is legitimated (Day, 1997:40).

Attempts both at local and national levels to provide INSET support for the CPD needs of teachers and schools are rarely conceptualised beyond the rhetoric of statements such as 'they should result in improvement'. In Libya the policy of change and innovation in the education system includes teacher training, but with no explicit consideration of effective learning models or long-term intellectual and professional development needs of individual teachers.

Tulder *et al* (1988) indicates that INSET serves three main purposes: (1) to stimulate the professional competence and development of teachers; (2) to improve school practice, and (3) implement political agreed-upon innovations in schools.

The focus of INSET is defined by teachers and, while people from outside the school may play a key role in the provision of INSET, the nature of that provision has to be what the school staff value rather than the outsider, however, academically distinguished. This investigation was conducted to explore how these activities can feed the professional needs of teachers.

With regard to the needs analysis mentioned at the start of this chapter, the teachers' needs for the future are vast, wide ranging, and impact on the content, delivery and relevance of CPD for the country's developing needs.

Perceptions, opinions and preferences in the field of INSET

It is important, as Fullan (1985) has emphasised, that INSET programmes should lead to planned educational change, through the use of new learning skills and the

development of an understanding of the rationale for change. There is a wide range of items below dealing with professional learning skills for educational change.

A lot of CPD is organised as In-service Education of Teachers (INSET). This section, will address and discuss teachers' perceptions, opinions and preferences in the field of CPD and INSET. In the UK, Bell (1991) identifies three approaches to CPD; (1) individualistic (apprenticeship and course-based); (2) (group school-based and school-focused) and (3) professional development.

The range of the following items from the investigation is very wide, indicating that activities in CPD and INSET provision lie in many fields to meet the demand of change and to improve teachers' professional effectiveness. From the data it can be seen that INSET programmes – both individual and ongoing, should have a high priority in Libya. These can be grouped into three main areas that reflect the spread of concerns set out in chapter two about the several foci of change and its management with relation to INSET: (i) INSET provision; (ii) INSET management; and (iii) matching of INSET to teachers' background and needs, thus:

(i) INSET provision should: (a) enable teachers to carry out new duties and to cope with their professional tasks more successfully, often focusing on what they, as well as inspectors, deem to be important issues; (b) improve teachers' managerial, class management, and practical skills, including assessment, parental involvement; (c) provide opportunities to get away from the school environment; (d) help teachers during their induction and to overcome deficits in initial training; (e) provide opportunities for teachers to meet with their own and other institutions' staff, i.e. to develop collegiality and to enable development sessions to be conducted informally (rather than, say, with formal sessions that are assessed formally); (f) be centred on improving teaching methods and students' achievement levels, and on acquiring and deepening new knowledge in various school subjects; (g) be used to disseminate new ideas, for example on effective teaching practice; (h) provide opportunities to obtain promotion; (i) provide opportunities for talented teachers to use their expertise as lecturers/demonstrators and collaborative planners (with an emphasis on practical activities and the use of technology rather than theoretical issues in INSET programmes).

(ii) INSET management. The data suggest that the resources required for this are substantial, particularly if, as the data suggest, every teacher should be required to

participate in INSET programmes regularly and in school time; the corollary of this is that, though the head teacher should be responsible for INSET in her/his school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes, teachers themselves should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance, and there should be incentives for attending INSET programmes to encourage teachers' attendance.

(iii) Matching of INSET to teachers' backgrounds and requirements. In order to ensure the most effective match between teachers' background, experience and INSET needs, teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject, but they should have teaching experience in the subject together with some administrative experience.

This set of activities has the widespread consensus of opinion of educational workers about important characteristics of INSET for teachers. The findings (table 5.14b), identified by 82.7% of the sample, show that, from this large range of items, the highest priorities were as follows (see table 5.14b):

Focussing on improving students' achievements/standards (1st – 96.3%);

Disseminating new ideas (2nd – 95.8%);

Inducting new teachers into their schools/the profession (3rd – 95.7%);

Providing opportunities for teachers to work together collegially in solving problems (4th – 95.2%);

Enabling teachers to cope with their professional tasks more successfully (5th – 94.5%).

Data (table 5.30b) show that all the nominal variables gender, age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location had only a small number of significant relationships to the responses with regard to this group of rating scale items concerning a range of INSET activities which could improve teachers' professional effectiveness. This indicates that the vast majority of rating scale items in this group hold true regardless of these nominal variables, i.e. that the issues are widely held across the sample. This suggests that the priority needs and other needs apply to everyone in the education system.

With regard to the needs analysis mentioned at the start of this chapter, it can be seen that these findings suggest the main foundation areas for CPD - they impact on all providers at all levels. They are both principles and recommendations for practice. As such they provide the basis for curriculum development for CPD in Libya.

Attendance at INSET courses

The data (table 5.15) show that the most preferred pattern of attendance is 'during school time' (31.1%) and a 'combination of the times' (25.8%) listed in the following group of items:

1. During school time;
2. Evenings;
3. Weekends;
4. School vacations;
5. Summer holidays;
6. A combination of the above times.

This indicates that teachers need INSET regardless of specific times for attendance, i.e. that the needs are widely held across the times for attendance.

The findings (table 5.31b) show that most of the nominal variables (age group, job status, experience, qualification, main subject, institution, ANSCT, MLCTBE and location) had a low number of significant relationships to the responses, which generally indicates that the rating scale items in this group hold true regardless of these nominal variables. Overall this indicates that there are few significant relationships between the times for attendance courses and nominal variables, i.e. that they still exist regardless of the nominal variables. This suggests that the priority needs and other needs apply to everyone in the education system. Only the nominal variable of gender contained a high number of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for attendance at INSET courses. A possible explanation for the significance of variance by gender is that female teachers preferred attendance at INSET courses during school time due to home/child care commitment, therefore there is a need to update them, and that therefore, experience of, and abilities to cope with change is limited. This factor is very important in meeting the demands of change, i.e. that tend to influence strongly a person's ability to meet new developments and innovations.

Types of INSET courses

The findings (table 5.16) indicate that the most preferred item in this group (types of INSET courses) was that of short-award-bearing courses (45.6%).

1. Long-award-bearing courses;
2. Short-award-bearing courses;
3. Short non-award-bearing courses;
4. Workshops and study groups;
5. INSET provision with other school(s);
6. A combination of the above courses.

Teachers indicate their preferences here in respect of financial incentives. The data (table 5.32b) show that the rating scale data concerning teachers' preferences for types of INSET courses generally hold true regardless of the nominal data recorded. It is worth mentioning that overall there are few significant relationships between the preference needs and the nominal variables, i.e. that the preferences are widely held across the sample and still exist regardless of the nominal variables. This suggests that the priority needs and other needs apply to everyone in the education system.

Location of INSET courses

The findings (table 5.17) indicate that the most preferred items in this group (location of INSET courses) were that of 'own schools' (59.0%) and 'teacher training colleges' (40.5%).

1. Own school;
2. Other schools;
3. Teacher Training College;
4. University;
5. A combination of the above locations.

The data (table 5.33b) indicate that the nominal variables main subject, ANSCT, MLCTBE and location had a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Overall there are few significant relationships between the preference needs and the nominal variables, i.e. that they still exist regardless of the nominal variables. This suggests that the priority needs and other needs apply to everyone in the education system. The nominal variables gender, age group, job

status, experience, qualification and institution contained a high number of significant levels of distributions with regard to the group of rating scale items concerning teachers' preferences for the location of INSET courses. A possible explanation for the significance of variance by gender, age group, job status, experience, qualification and institution is that some teachers may have been in post since before major changes occurred, therefore, there is a need to update them, and that therefore, experience of, and abilities to cope with, change is limited. These factors are very important in meeting the demands of change, i.e. they tend to influence strongly a person's ability to meet new developments and innovations.

Teaching styles in INSET courses

The data (table 5.18) show that the most effective items (teaching styles in INSET courses) were that of demonstration lessons followed by discussion (51.8%) and a combination of the styles listed in the following group of items (51.1%).

1. Lectures;
2. Seminars (tutorial group);
3. Workshops;
4. Micro-teaching sessions;
5. Demonstration lessons followed by discussion;
6. Radio broadcasts;
7. Broadcasts;
8. A combination of the above methods.

Teachers confirm that the use of a variety of teaching styles could be more helpful for their training programmes.

The data (table 5.34b) indicate that the nominal variables of age group, job status, experience, main subject, ANSCT, MLCTBE and location had a low number of significant relationships to the responses, which indicates that the rating scale items in this group hold true regardless of these nominal variables. Overall there are few significant relationships between the teaching styles and nominal variables, i.e. the needs are widely held across the sample and still exist regardless of the nominal variables. This suggests that the priority needs and other needs apply to everyone in the education system. The nominal variables gender, qualification and institution seemed to make a difference, where the results contained a large and moderate number of significant interactions with the rating scale items concerning teachers' preferences

for teaching styles in INSET courses. A possible explanation for the significance of variance by gender, qualification and institution is that some teachers may have been in post since before major changes occurred therefore, there is a need to update them, and that therefore, experience of, and abilities to cope with change is limited. These factors are very important in meeting the demands of change, i.e. they tend to influence strongly a person's ability to meet new developments and innovations.

Conclusion

We need desperately to size up the problem, and see what can be done to make the career-long continuum of teacher learning a reality (Fullan, 1993: 105)

Referring to the questions at the start of this chapter and the statement of elements of a needs assessment from Morrison (1998), it can be seen, then, that the size of the problems/deficits is large, that the CPD needs are huge in order to meet the deficits and to keep up with the normal growth of continuing professional development and demands of new change and innovation. Everyone in the education system is likely to be affected, and the consequences if the needs are not met are the stagnation and regression of Libya educationally, socially and economically. Human capital development is a vital, if not critical element in the development of Libya as a whole. The needs are to be met through a massive INSET programme on a variety of fronts/areas and with a vast range of resources, teaching/learning styles.

The need now is for a model of change through INSET which takes into account the above points in order to manage change and innovation through CPD and INSET provision, towards a realistic practical programme for improving teachers' professional effectiveness in Libyan schools. As result of the above points the whole thesis presents a model of the change process, which is discussed in more detail with further implications for managing change, in the final chapter.

CHAPTER

7

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Introduction

This chapter presents some conclusions and discusses some of the implications which arise from the background, literature review, analysis and discussion chapters. It also focuses on some of the many issues as a result of this study, that may be seen as deserving future attention, addressing the question that can now be addressed for this thesis: what lessons can be learned from this study for the effective management of change and INSET?

One aim of this study has been to identify a model of managing change and innovation in Libyan schools with particular reference of the role of INSET in helping teachers to improve their professional effectiveness to meet their needs. It is hoped, then, that the findings of this study will contribute towards improving education in Libyan schools.

The requirement of assessing and analysing the issues needs to identify problems, content, methods, concepts, resources, administration and structure of the education system, and consequently to plan, prioritise and operationalise the needs for change.

Libya is a country that considers citizens as the most important resources. Change, therefore, concerns human capital development, human resource development and human resource management. This view was reflected on the emphasis given to education at all levels.

The education system was introduced to meet the needs of society in Libya. When the educational enterprises are viewed as a whole, their expansion to meet the needs of the people have been remarkable. Teachers and teaching quality, rapid growth rates in society, uneven geographical distribution of the population, a higher percentage of

children in schools, have led to an increase in expenditure. The government introduced a comprehensive reform of education, i.e. curriculum change at all levels, aiming at restructuring the school system, and improving the quality of teaching and learning. The reform program is designed to increase the effectiveness of teachers through INSET courses as one means of raising the level of pupil achievement in schools and to improve the standard of education as whole. Therefore, there is an increasing need to ensure the CPD of teachers, and this makes the task of change greater.

It is doubtful that the traditional approach to training will succeed in familiarising all the teachers in Libya with the content, methods and philosophy of the new curricula, and upgrading thousands of unqualified teachers to meet the new teaching requirements. The government has to consider an alternative approach that builds on differentiated education. This approach has clear advantages in terms of its potential for cost-effectiveness, and the provision of standardised high-quality materials, where strategies for the needs are to be met through managing change and innovation towards a realistic practical programme for CPD.

This thesis has suggested that the change process involves:

- (a) locating and identifying problems, issues and needs;
- (b) ensuring that it is evidence-based, using high quality data obtained through appropriate, rigorous methodologies and methods;
- (c) identifying and building in the views of the full range of stakeholders through appropriate sampling techniques;
- (d) building in a needs analysis for each stage of the change process (problem identification; identification of how to address the problem; strategies for intervention; how to implement the intervention; how to resource the implementation; how to monitor and evaluate the implementation; how to manage the implementation - objectives, tasks, roles, starting points, prioritisation of programs, leadership and responsibilities of all parties; evaluation of impact - short term to long term);
- (e) implementation - targets, routes and tasks.

Additionally, subsequent analysis of the implementation of change (in another thesis) would be able to answer two further issues:

- (f) an evaluation of the extent to which the targets have been reached;
- (g) an evaluation of the extent to which the targets have succeeded in addressing the needs, problems, issues;
- (h) provision of feedback and setting of new targets.

The process is akin to the problem-solving approach to change outlined in chapter two (Morrison, 1998, chapter two):

- Stage one: identification of problem;
- Stage two: identification of causes of the problem - real causes rather than symptoms;
- Stage three: brainstorming solutions to the problem;
- Stage four: deciding on the putative solution to the problem from the range of suggestions generated;
- Stage five: planning the intervention and its implementation;
- Stage six: implementing the intervention;
- Stage seven: evaluating the outcomes of the intervention in terms of the extent to which it has successfully solved the problem;
- Stage eight: identifying new, resultant problems and issues;
- Stage nine: repeating stages one to eight.

This staged model recognises that change is dynamic and ongoing rather than fixed or project-based alone.

This problem-solving approach is useful in that it identifies real needs in terms of the participants and stakeholders, which, argue Dalin *et al* (1993), is a significant feature of successful change. In this thesis care has been taken to ensure that the ‘people’ dimension of change - a critical factor (Morrison, 1998) - has been addressed throughout. The stakeholders themselves have been asked to identify problems, needs, strategies, proposals, priorities, lines of approach in their own terms, to build in their perceptions and constructions of the issues, including: timing, resources, pedagogical styles on INSET courses, support, relevance. Not only does this impact on the content and methodologies of INSET activities but, importantly, it recognises

and works with the fact that resistance and personal factors are endemic to change (Fullan, 1991; Hargreaves and Hopkins, 1991; Morrison, 1998).

What is being advocated, then, in the emerging model of change from this thesis, is the need to integrate all the participants and strategies for change. What is being suggested here is that problem-solving, change and needs analysis are the start of change, integrating top-down and bottom-up strategies for involvement of everyone (see figure 7.1).

effective change integrates *top-down* strategies with *bottom-up* strategies (Morrison, 1998:15).

The sequence of the rest of this chapter will be presented in sections 1-4 in order to reflect the priority of the model, and follows the sequence of the previous chapter as follows:

1. Difficulties that teachers experience in their work;
2. Improving teachers' professional effectiveness at present;
3. Improving teachers' professional effectiveness in the future;
4. Perceptions, opinions and preferences of teachers toward INSET in Libya;

The following pages will studiously avoid repeating the data and their interpretation from previous chapters.

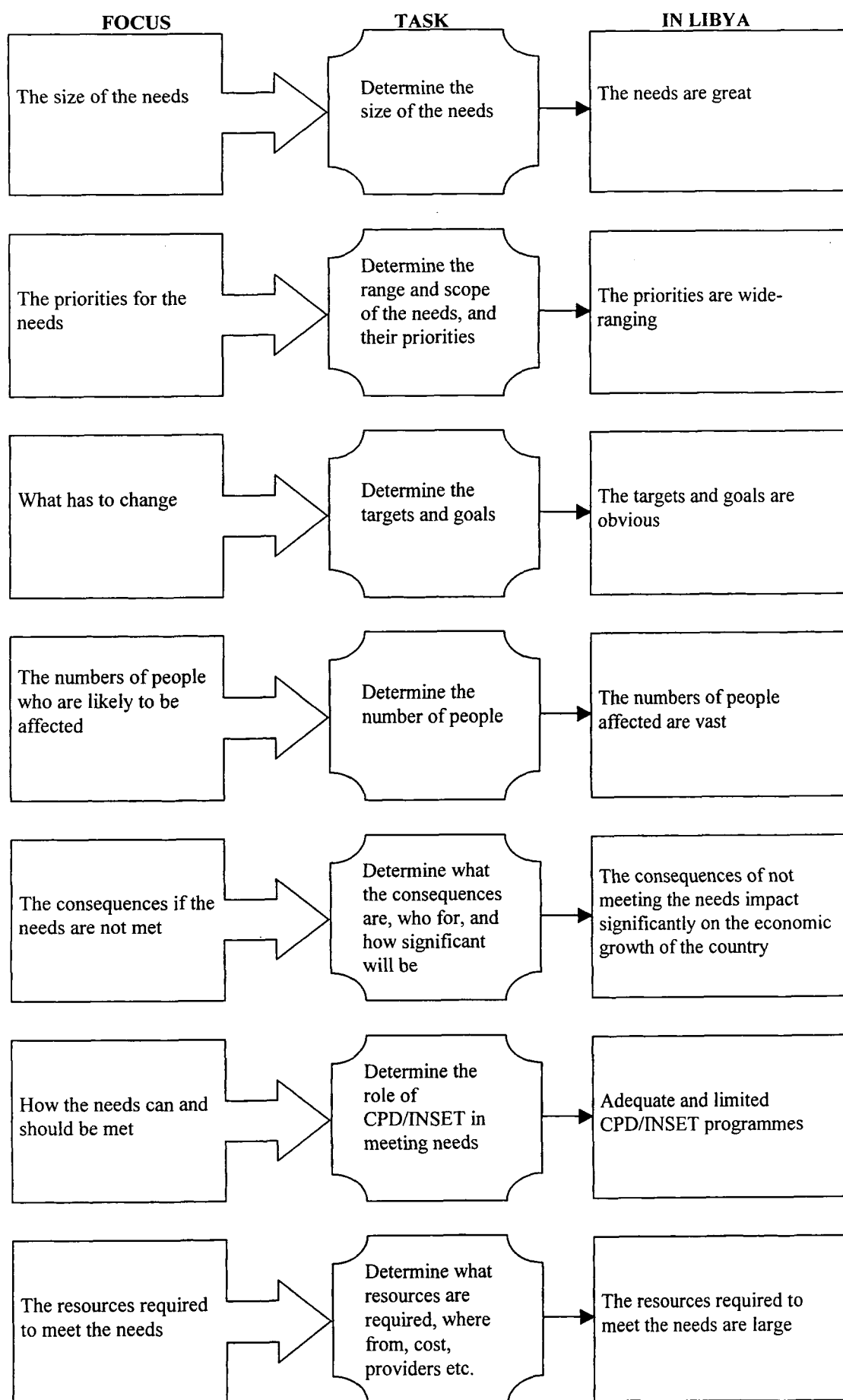


Figure 7.1 A model of change and needs analysis

Difficulties that teachers face in their work

Chapter six indicated that the size of the problem is large, the needs are great, the priorities are wide-ranging, the numbers of people affected are vast, the consequences of not meeting the needs impact significantly on the economic growth of the country, and the resources required to meet the needs are large. Therefore the CPD needs are huge to meet the deficits and keep up with growth of change and innovation.

The issue that is being raised here is that the effective management of change has to respond to real needs, and in terms of the participants themselves. It is no accident that the model of change and INSET that underpins the questionnaire in this thesis commenced by asking participants themselves to identify issues, problems and needs. This not only builds in the 'people' factor in the successful management of change, but takes seriously the view, long established in industrial models of change (Morrison, 1998), that the people who are closest to the problems are in the best position to identify exactly what those problems are and to suggest how they might be addressed - rather than, for example, remote policy makers or senior administrators. Not only does this build in involvement and engagement of participants and those affected by the change - a central element of successful change (Fullan, 1991), but it ensures that *real* needs are identified, an important element if change is to be effective (Dalin *et al*, 1993); effective change cannot simply be cosmetic. In this respect this thesis has accepted that there are several parties who are close to the problem, and the questionnaire was at pains to catch the several perceptions of the problems, and, through careful and rigorous sampling, to ensure that the stakeholders' voices were all included in the data collection.

Improving teachers' professional effectiveness at present

Chapter six suggested that there is, then, a large need, that is very urgent, for carefully targeted, differentiated, and wide ranging CPD for all teachers, with the providers needing to improve the quality, content and delivery of CPD.

The issue here is that effective change must commence 'where people are' and deal with their current situations as well as their prospective situations (Dalin *et al*, 1993; Fullan, 1993). The 'here and now' element of change cannot be overlooked. Engaging the hearts, minds and practices of participants is a significant element of effective change (Watson, 1966; Morrison, 1998) and this can be addressed by

ensuring that proposals for change not only derive from the participants themselves but address their real, identified needs. In this respect the locus of change is with individuals and local sites (Dalin *et al*, 1993).

This view also recognises that, adhering to the principles of effective needs analysis, change must identify priorities. It was suggested in chapters three and six that Libya is facing urgent and significant immediate problems in the education of its students and teachers. It is wasteful to work on prospective needs without attending to immediate needs. This suggests that the planning of INSET has to identify and respond to the issue of time frames, setting goals, targets, activities and tasks in the short term, medium term, and long term (see figure 7.2).

Improving teachers' professional effectiveness in the future

Chapter six indicated that the teachers' needs for the future are vast, wide ranging, and impact on the content, delivery and relevance of CPD for the country's developing needs. That chapter indicated that the role of an educated work force for Libya's development is crucial, and that the need for training of this work force is increasing with demographic changes. This places a premium on the development of its teachers. It was identified in chapters five and six that many teachers have been in their jobs for many years and that there is a huge need for updating to meet current and prospective needs. Further, the analysis suggested that there was a need to improve the motivation of teachers. In terms of managing change, these problems recognise a significant component of the management of effective change, that a critical dimension of effective change is the support given to participants. How do we motivate teachers? One important way is to support them, to provide them with the training that they need and deserve. This is a message which has long been recognised in industry, where the management of innovation has been concomitant with the continuous training and updating of the workforce (Burnes, 1996; Morrison, 1998). It is idle to suppose that required new skills will simply be developed without support.

A second feature that this analysis suggests is the need for the planning of INSET to identify and respond to immediate, short term, medium term and long term priorities, and to identify the responsibilities and tasks of the several parties in managing this. In terms of the analysis undertaken for Libya in this thesis, this can be presented in tabular form in figure 7.2. These recommendations embrace the thirty features set out later in this chapter. In this figure it is assumed that the 'immediate' and 'short term'

tasks derived from this thesis directly, as one purpose of the thesis was to identify immediate and short-term needs, whereas the medium and longer term tasks follow the *principles* rather than the substance of developments that have been established for change in this thesis. The 'immediate' and 'short term' tasks are concerned with meeting immediately identified needs; the medium term tasks are concerned with meeting prospective needs in respect of change and innovation; the longer terms needs concern developing a full CPD strategy rather than simply 'firefighting' to deal with current deficits.

Figure 7.2 Priorities and time frames for INSET development in Libya

<i>TIME FRAME</i>	<i>PRIORITY LEVEL</i>	<i>TASKS REQUIRED</i>	<i>PARTIES RESPONSIBLE</i>
Immediate	High	1. Identify priorities for serving teachers' INSET needs, using the questionnaire data from this thesis. 2. Provide immediate updating for current curricula for existing teachers for identified priorities. 3. Identify funding increases and expenditure for providing INSET, i.e. cost out priorities. 4. Ensure that INSET is provided at times and locations that make it possible for teachers to attend. 5. Review the current arrangements for the providers of INSET, in terms of their expertise, relevance and up-to-dateness. 6. Establish a department in the People's Committee for Education and Scientific Research that has responsibility for INSET provision, planning, funding, development, co-ordination, monitoring, evaluation and targeting.	Teachers Policy makers Inspectors Providers
	Medium	1. Establish INSET co-ordinators in schools, to liaise with INSET co-ordinators in local authorities. 2. Cost out the resources needed for curriculum development and updating of teachers.	Local authority officers Inspectors Head teachers Teachers Policy makers INSET co-ordinators Providers

<i>TIME FRAME</i>	<i>PRIORITY LEVEL</i>	<i>TASKS REQUIRED</i>	<i>PARTIES RESPONSIBLE</i>
Short term	High	1. Rationalise and co-ordinate existing INSET provision, and identify major areas of under-provision. 2. Establish a program of INSET to meet immediate identified curriculum needs as identified by all stakeholders, to match INSET with curricula. 3. Ensure that teachers are involved in identifying their INSET needs to meet their immediate problems. 4. Identify and implement strategies to ensure that teachers are motivated to undertake INSET. 5. Identify how INSET is intended to impact on practice, and how this can be measured. 6. Draw up a list of national priorities for INSET, ensuring that it addresses immediate and prospective needs.	Teachers Policy makers Local authority officers Inspectors Providers
	Medium	1. Establish working parties at all levels to commence the planning of an INSET strategy that moves beyond immediate servicing and towards the establishment of ongoing and continuous CPD for teachers. 2. Produce strategy papers and programs to manage the move from 'INSET for servicing immediate needs' to 'CPD for lifelong learning' for teachers. 3. Make appointments to new posts and infrastructures to develop an INSET policy and program for Libya, i.e. build up the infrastructure for the planning, management, implementation and evaluation of INSET. 4. Ensure that a problem-solving approach is adopted in INSET - to meet teachers' identified problems and working on specific, locationally-specific solutions to problems. 5. Involve head teachers in the planning of INSET needs and clarify their role in developing INSET for teachers.	Teachers Policy makers Local authority officers Inspectors Providers Head teachers School INSET co-ordinators Governing bodies Curriculum development agencies
	Low	1. Set into place a management strategy for the rationalisation, introduction, co-ordination and systematisation of INSET. 2. Ensure that inspectors are adequately prepared and qualified for their role in providing for and inspecting INSET and its effectiveness.	Teachers Policy makers Local authority officers Inspectors Providers Head teachers School INSET co-ordinators Governing bodies Curriculum development agencies

TIME FRAME	PRIORITY LEVEL	TASKS REQUIRED	PARTIES RESPONSIBLE
Medium term	High	1. Involve teachers in the identification of INSET needs required to be met for curriculum initiatives and innovations. 2. Identify exactly what teachers' perceptions are of INSET needs in the management of change. 3. Ensure agreement between all parties on INSET needs, provision and implementation. 4. Ensure that teachers' preferences are identified and met in implementing INSET for prospective needs. 5. Develop and set into place mechanisms for monitoring and evaluating INSET and its impact on practice.	Teachers Policy makers Local authority officers Inspectors Providers Head teachers School INSET co-ordinators Governing bodies Curriculum development agencies
	Medium	1. Establish school and local authority level INSET planning committees, so that involvement of stakeholders is built into the development of INSET. 2. Undertake systematic monitoring and evaluation of INSET provision, uptake, impact and effectiveness. 3. Establish transparent mechanisms for selection of teachers to attend INSET. 4. Identify how INSET can draw upon the existing expertise in the schools.	Teachers Policy makers Local authority officers Inspectors Providers Head teachers School INSET co-ordinators Governing bodies Curriculum development agencies
	Low	1. Consider how to motivate teachers to attend INSET through reward and award-bearing schemes. 2. Ensure that attention is given to the pedagogy of INSET to meet teacher's expressed preferences. 3. Ensure that INSET takes sufficient account of the reality of classroom conditions.	Teachers Policy makers Local authority officers Inspectors Providers Head teachers School INSET co-ordinators Governing bodies Curriculum development agencies Higher education bodies

<i>TIME FRAME</i>	<i>TASKS REQUIRED</i>	<i>PARTIES RESPONSIBLE</i>
Long term	1. Establish a full, rationalised and targeted program of ongoing CPD. 2. Identify how INSET and CPD dovetail with initial teacher education and the requirements of newly qualified teachers.	Teachers Policy makers Local authority officers Inspectors Providers Head teachers School INSET co-ordinators Governing bodies Curriculum development agencies Higher education bodies

It can be seen that figure 7.2 is much more concerned with the immediate and short-term rather than the medium and long term. In this respect it is suggested in this figure that the immediate priorities are either high or medium; it is almost a contradiction in terms to suggest low immediate priorities in Libya's INSET, given the argument about the urgency and size of required INSET in Libya. Further, it is intentional that the longer term tasks have not been prioritised, as, in keeping with the evolutionary, contingency-driven approach advocated in this thesis, it is envisaged that these will emerge over time. This is entirely in keeping with the thesis, where the intention has been to provide pressing starting points for INSET rather than developing longer term strategies. As the needs analysis indicated, there are very many urgent INSET needs that have to be attended to in Libya. It is suggested that the provision of longer term policies and practices can be undertaken once the infrastructure for INSET provision and CPD is in place. This thesis is intended to initiate INSET to meet emergency contingencies rather than to meet longer term developments; that is another thesis. It can be seen also, that the initial focus is on 'framework developers' - key parties involved in policy making; it is only later that other figures are introduced, for example INSET co-ordinators and planning agencies. One can observe that the policy is to involve teachers from the very initial stages, and that the process of involvement is cumulative, involving more parties as INSET develops. Many parties are involved eventually - an inclusive approach.

The development of INSET in these priorities has to look to the *substance* of the INSET; it also has to look to the *management* of INSET provision. At present the provision for INSET in Libya is undeveloped, scrappy, piecemeal, unsystematized and *ad hoc*. Hence the development of INSET in Libya has to be embedded in the planning for the strategic development of the education service. A structure for the management, rationalisation, systematisation, co-ordination and provision of INSET has to be developed in Libya.

This planning conforms to the requirements of an effective needs analysis as set out through the preceding two chapters. In terms of managing change, the matching of priorities with time frames enables an alignment to be made with all parties, policy makers, administrators, providers, teachers, inspectors etc. This finds voice, in microcosm, in the literature on managing change, where it is advocated (e.g. Wickens, 1995) that organisations become 'aligned', all parties moving in the same direction

and towards the same agreed goals. What is being advocated here is the need for this to be not solely in microcosm but in macrocosm - all parties involved in teacher education are to share a vision of where teacher education should be moving, and how. This recognises the need for strategic planning to be consistent with specific circumstances, i.e. contingency theory, where local, situational 'contingencies' (e.g. resources - human and material) have to feature.

Perceptions, opinions and preferences in the field of INSET

Chapter six indicated the main foundation areas for INSET - they impact on all providers at all levels. They are both principles and recommendations for practice. As such they provide the basis for curriculum development for INSET in Libya.

This is a critical element in the successful management of change, for it recognises that the management must identify and work with, and on, the perceptions of participants. Though this study has indicated a notable similarity of perception across the sample, giving concurrent and construct validity to the analysis, the issue that is raised here for the management of successful change is that it must identify exactly what the perceptions of participants are. This is important, for it might be that these perceptions are faulty, incorrect, distorted, uninformed, prejudiced, inaccurate, selective and a poor match to the 'facts' of the case (Morrison, 1998). If change is to be effective then part of 'starting where people are' is to identify exactly what their perceptions are, how accurate etc. they are, and how they can be brought into the change process - how they can be 'managed'. The issue here is that the effective management of change frequently concerns the effective management of perception (Eisner, 1985), as Thomas (1928) suggests: 'if men [sic] define their situations as real, they are real in their consequences'.

Clearly there is a significant issue of communication here, for not only does the change planner have to identify the participants' perceptions, but also the range of perceptions might be an important feature. For example, if the perceptions held by policy planners for INSET do not accord with the perceptions of teachers (as has been evident in the Libyan context as described in preceding chapters), then the likelihood of sustained and effective change being implemented is attenuated. The management of change is frequently an issue of communication, and differences of perception need to be surfaced and ironed out if change is to be effective and resistance to change is to be overcome (Everard and Morris, 1996; Morrison, 1998; Robbins and Finley, 1998).

If participants are not speaking a common language then change is unlikely to be successful.

In this study care was taken to ensure that all the participants' views were exposed, communicated and noted through careful stratified sampling and data analysis, itself a key feature in the effective management of change.

The understanding the *preferences* of participants is a significant issue, for not only does respecting participants' preferences indicate respect for their views, itself a key element in the successful management of change (Morrison, 1998; Robbins and Finley, 1998), but this is an important element in enhancing their motivation and support for INSET, themselves key factors in overcoming resistance to change (Fullan, 1991; Morrison, 1998). We motivate people to change by respecting them; we respect them by listening to them and acting on what they say.

Simply on a practical level this ensures that change will be more effective, for it recognises and works with the constraints under which teachers are working. For example, this study indicated the problems in Libya of both a dispersed and concentrated population, the issue of child care and availability to attend courses. These are important factors and underpin the view that the successful management of change has to work with the real constraints under which people are working.

The picture of change and INSET in Libya supports the idea that much has to be done. Many implications relative to change and INSET may be drawn from this study. The study results show that there is a need for urgent and substantial change. This change is located in several contextual factors about Libya.

1. Centralisation: this is a reflection of the educational system, and the public administration as a whole. The necessities of different providers have not been taken into consideration by the central authority. This highlighted the need for change to decentralisation and the involvement of deferent providers. The quality and quantity of INSET has been directly affected by the government policy.

2. Unsystematic provision: the problem exists that rarely are such courses part of a long-term developmental strategy or plan. This requires the providers to consider change as a continuous process and the strategies of long-term developmental plans; the learning process does not stop once a teaching skill has been obtained. INSET

programs have been drawing upon the human resources, facilities, and equipment of these institutes, which inevitably has limited the expansion of INSET.

3. Currently INSET is not responsive enough to these, which requires the immediate and substantial increase in the provision of INSET. Further, Teachers are not given the opportunity to attend INSET activities, the provision of courses is generally inadequate for school teachers, and teachers and providers are dissatisfied with the present selection methods for INSET programs, which highlights the need for careful examination of the present selection procedures. No real evaluation of INSET programs exists in Libya, and there is no systematic follow-up of INSET trainees to keep up with change and innovation demands.

4. Schools and teachers are excluded from planning: this problem illuminated the importance of involving schools and teachers in planing INSET activities. Currently there is a lack of integration between schools' curricula and the contents of INSET curricula. The dissatisfaction of teachers with the provision of INSET courses was paralleled by their feelings that they were not consulted about the planning and organisation of INSET, which is usually left to one person or group to plan. This indicates the need for more integration between schools' curricula, and the contents of INSET curricula to meet the needs for curriculum change and innovation. INSET providers need to liaise much more closely with teachers, particularly as the most effective INSET is likely to occur when teachers are strongly motivated and involved and where the skill learned has the opportunity to be transformed by transferring it into a teacher's active teaching repertoire. Determination of needs of the teachers within the school system seems to be a pre-requisite for the planning of meaningful INSET programs. Specific objectives should be developed and follow-up procedures established to determine if these objectives have been realised.

5. Short courses have no credit or financial incentives: this caused a poor attendance and dissatisfaction among the teachers attending short courses. There is a need to review this issue in terms of consideration of importance of short courses.

6. In terms of the contents and style of the course themselves, the data suggested that enthusiasm for attendance was likely to be increased by course teaching methods that appeal to the teachers. One could extend this to suggest that the success of INSET, to some extent, may depend on the technical arrangements such as location, time, style and approaches in to INSET programs, including ensuring that training situations fit

classroom conditions and that teachers have the opportunity to apply the training in their schools' work (which is currently very limited or non-existent). Not to do this is to risk staff forgetting the new methods or the alternative approaches learnt.

7. Further, there are some indications that the follow-up and effectiveness of INSET in schools depends particularly on the inspectors and on the school atmosphere. This emphasises the need for qualified inspectors and head teachers in Libya. Teachers agreed on the importance of the head teacher's role, the head teacher being supposed to supervise staff, and to encourage them to use innovation and introduce change, and this needed to be complemented by INSET.

8. The literature reveals a dramatic increase in the attention to INSET, but a notable lag in the empirical efforts to plan such programs. If INSET in Libya is to pass beyond the 'lip service' stage to become an equitable and effective reality, research must accompany development.

Figure 7.2 set these features into priorities and time frames. Here care was taken to identify implications for different parties: policy makers, providers, inspectors, local authority officers, teachers, head teachers, for INSET co-ordinators in schools. The issue here is that parties at all levels need to establish working groups to examine INSET. At a national level, government frameworks for INSET, moving to CPD, need to be planned and established; this is a People's Committee for Education and Scientific Research matter and this thesis recommends the establishment of a department within the Committee for Education and Scientific Research that will have responsibility for this and for making policy. Representation at this level should be widespread, to include all stakeholders.

At local authority and regional levels, this thesis has recommended the establishment of INSET strategy, development, provision, implementation, monitoring and evaluation groups, with representation being widespread.

At school level, this thesis recommends the establishment of INSET working and co-ordination groups, under the responsibility of an appointed INSET co-ordinator. This post, following the pattern in the UK, might be a promoted post, thereby according status to INSET and CPD in the school. Again, this should have widespread in-school representation, maybe with representation from the local authorities and local providers.

What is being advocated here is that the establishment of an infrastructure for INSET and CPD in Libya to manage change and innovation is currently absent. Hence, in addition to the several tiers identified here to provide such an infrastructure, the significance of representation and communication cannot be overstated, indeed this is a central feature of the management of effective change (e.g. Fullan, 1991; Morrison, 1998). The several parties and levels need to speak to each other. This is essential if co-ordinated, targeted, agreed, prioritised, differentiated, efficient, rationalised, systematised, effective INSET and CPD are to be managed. What is being suggested here sets the ground for the development of quality assurance and monitoring procedures for INSET. This thesis will not explore the ‘quality assurance’ issues in the provision of INSET; that is another thesis (see also, for example, Morrison, 1998).

What is being suggested here is that the central planks of quality assurance and quality development are rooted in a theory of change as: (a) being people-focused; (b) involving problem-solving, strategic planning, development planning, effective communication; (c) involving all stakeholders; (d) being evidence-based, with that evidence being gathered from all participants; (e) involving monitoring, evaluation and the provision of information; (f) co-ordinated, systematised and planned within overall priorities, targets and frameworks. That is an exact description, perhaps, of the processes and outcomes of this thesis.

Implications for future research

The limitations of this thesis were established in its opening chapter. Here it was deliberately stated that this thesis ‘maps the domain’ of INSET in Libya rather than providing fine-grain detail. Hence, taking the point raised above about the need for a research base for INSET in Libya, subsequent research could build on this thesis in several ways.

On several occasions in this thesis it has been made clear that further research needs to be done on the data (see chapter four); this is for another thesis. Further, what is required is more detailed data, to provide *explanatory* material for some of the findings, for example: (a) to answer the questions of why the teachers and participants in the survey gave the answers that they did; (b) how their agenda for developments could be addressed in greater detail in practice; (c) how INSET can impact on practice and how one can know whether and how it has impacted on practice; (d) how the cost-effectiveness of INSET can be calculated, in the interests of running an efficient and

effective service; (e) how the infrastructure for managing and developing INSET can be established; (f) how the move from 'service/remediation INSET' to CPD can be managed; (g) how accurate, realistic, practicable is the model of change that has been developed here; (h) what are the limitations of a needs-analysis approach to commencing change; (i) what kinds of data would seriously disconfirm the conclusions drawn in this thesis.

What is being suggested here is that this thesis provides an invaluable starting point for further research, because it has set out the areas that need to be covered in greater detail. In this sense the thesis clears the ground rather than builds on it. Building is the area of further research. Even though the questionnaire survey was long, future research could explore each section of that survey in greater detail. Indeed, an alternative approach might have been to have conducted in-depth interviews with 'significant players' in the field of INSET - providers, inspectors, teachers, policy makers, government officers, school principals etc. - rather than to have adopted a survey approach; this would have yielded important data from 'knowledgeable people' that would have complemented usefully the outline data reported in this thesis.

One important qualification was made to this thesis; it is an *exploratory* study only, intended to be able to establish further lines for inquiry. In this respect the thesis has suggested how these might be taken forward in several fields, for example: substantive issues; methodological issues; issues of instrumentation and sampling; theories of innovation and change; the conduct of needs analysis; the management of the development of an infrastructure to establish and promote INSET in Libya; issues in quality assurance; how to build in person-centred approaches to change at macro as well as micro-levels and into survey approaches to study those changes and innovations.

Planning, Managing and Supporting Change: a model for INSET

It would be invidious to try to catch the richness of the data and the thesis in a simplistic closing statement; that would be to violate the very principles of complexity and detail which, this thesis has argued, characterise the nature of change. However it is possible to draw together the several strands of the thesis by way of presenting a model of change and INSET that catches the main features that have been developed through the study. Such a model has to recognise the complexity of the issue of change, the complexity of the elements of change and the need to invest in human

capital development. The matrices in chapter two of the thesis showed that the elements of change were so many and so complicated that it was almost impossible to come up with a blueprint for planning change. That does not mean that change cannot be planned; what it does mean is that the nature of that planning and the level of detail have to be considered very closely. An important issue to emerge from this thesis is that the planned parts of change at policy level are in outline form only, rather than being too specific, identifying priorities, funding, general principles (e.g. of organisation), *and* that the detailed planning of change has to be undertaken with a particular group of providers and teachers in mind, i.e. that it has to be done *locally*. This echoes Dalin's *et al's* (1993) point that the site of change is at the individual, situational level. It has been suggested that the 'people' dimension of change has to be built into the management of change at every stage, and the notion of 'tailoring' INSET to meet needs takes this issue seriously.

In turn this means that that INSET has to be responsive to local, individual and school needs, and that these courses should fall within an overall policy framework and in light of the local preferences and needs identified earlier in this chapter. This ensures that the nature of policy formation is to create direction and alignment in meeting the country's and society's needs rather than to be highly prescriptive.

With these considerations in mind it is possible to outline the features of a model of change and INSET. This is indicated in figure 7.3:

Figure 7.3 Modelling change and INSET that builds in the 'people' dimension

STAGE OF CHANGE	ROLE OF INSET	ADDRESSING THE 'PEOPLE' DIMENSION
1. Identify the constraints and pressures on change.	Review and dissemination of policy documents and statements.	Ensuring that all views are canvassed.
2. Identify the parameters and aims of mandated change.	Review and dissemination of policy documents and statements. Identify aims, goals, purposes and directions of change.	Ensure that all participants are aware of these parameters - i.e. a communication and dissemination issue.
3. Identify the stakeholders.	Identify the degree of consonance/discrepancy between stakeholders.	Ensuring that all stakeholders are identified involved as active participants.
4. Review the present position and practices. Collect evidence for this.	Identify how data might be collected; data collection through instrumentation; discussion of findings.	Ensuring that all participants are involved and included, e.g. in facilitated self-assessment and assessment.
5. Conduct a needs analysis to identify: (a) major problems; (b) root causes; (c) the size of the problem; (d) the size of the need; (e) the priorities for the need; (f) the numbers of people affected; (g) the consequences if the needs are not met; (h) the resources required to meet the needs; (i) the human capital development implications; (j) the capability of the different levels of education to make the changes and what needs to be done to improve their capability;	Use a range of diagnostic tools, e.g.: Survey research; Ishikawa diagrams; rating scales and costings; costings and populations; nominal group technique, results of surveys; data from survey sampling and survey; consequences for whom, and how large they are; costings for staff development; contents and costings of developments; facilitated self-assessment organisational assessment and national policy implications.	Ensure that all participants 'have a voice' in the needs analysis, that their views are listened to and included, i.e. that participatory democracy is practised, and that the voices of minority groups are heeded. Ensure that empowerment of all groups is the goals through support for increasing their knowledge, skills, abilities and that the social and emotional needs of participants are met.
6. Identify what needs to be done to meet the needs, i.e. what intervention is necessary.	To brainstorm, evaluate and agree an intervention, i.e. the contents, focus, purposes, resourcing, timing, motivation for, pedagogy, success criteria for required INSET.	Identify the staff development needs. Ensure that social and emotional needs are met as well as substantive needs for expertise. Ensure that INSET is differentiated and responsive to the practical constraints on participants.

STAGE OF CHANGE	ROLE OF INSET	ADDRESSING THE 'PEOPLE' DIMENSION
7. Identify what decisions need to be taken and who takes them (e.g. what levels of decision making).	To identify locus and focus of decision making for required INSET.	Ensure that decisions benefit the greatest number of participants and also provide for a range of participants' needs (i.e. to use 'tailor-made', differentiated INSET in terms of purpose, focus, timing, organisation, venue, duration, pedagogical styles etc).
8. Identify different stakeholders' responsibilities and tasks.	Agreement and dissemination of responsibilities and tasks of providers, resourceers, monitors, evaluators and attenders of INSET.	Ensure that a non-coercive style is facilitated to encourage participants to volunteer for development activities and to ensure that concrete activities and tasks are planned.
9. Identify how the intervention might be introduced, implemented, continued, monitored and evaluated, i.e. how the change might be managed, led and supported, and what strategies are to be used.	Planning the INSET to support the changes. Identify responsibilities and resourcing, timing, duration, location, organisation of INSET, its purposes, contents, recognition (e.g. in awards), relevance, centrality in the change, evaluation of impact.	How to build on existing strengths and practices. Identify how to support people in the process of development, updating, upgrading, changing their skills etc. How to minimise threat and enhance self-esteem and creativity.
10. Identify obstacles, resistances and difficulties in stage (9) and how to address them.	Identify facilitating and inhibiting factors, e.g. forcefield analysis, survey data, and identify how to improve motivation and incentives for professional development.	Ensure that personal, psychological, power, and value barriers are addressed, and that development activities enhance and empower people, i.e. that the INSET is seen as developmental and positive rather than curative of pathology or neglect, and negative. Ensure that human, material and administrative support and resources are available.
11. Set time frames	Work within time frames of short-term, medium term and long term developments and INSET.	Ensure that all participants are involved in decision making about what can, must, and may be achieved in agreed time frames and that these are adhered to by providers as well as attenders and inspectors.
12. Identify success criteria and data required for quality assurance, evaluation and accountability.	Develop evaluation criteria for INSET, its impact on practice, how to assess the achievement of its goals and whether those goals were useful in addressing change.	Ensure that facilitated personal target-setting is practised within externally set frameworks for INSET. Ensure that success criteria are development and recognise achievement and success rather than provide evidence of failure and for blame.

It is interesting to note how many of the features of this model resonate with the model of change outlined by Clarke (1994), and that Morrison (1998: 30) praises Clarke's model for its attention to: (a) the dynamics of change; (b) the human dimension of change; (c) the cultural and organisational aspects of change; (d) its recognition of the significance of supporting change; (e) the need for ownership and involvement.

Finally, in a sense, this thesis has come full circle. It commenced with an examination of change and INSET. Then, springing from that analysis, it moved to a review of the context of Libya to reinforce the need for human capital development through INSET and to set the ground for the empirical survey. Following from the data analysis, the thesis then moved towards a synthesis of the empirical data, the situational review of Libya, and the literature on change, innovation and INSET. Springing from that synthesis is a set of prescriptions for the development of an effective INSET service in Libya.

The characteristics of that INSET were rooted in the principles of person-centred change; commencing with an identification of problems facing Libyan education through the eyes of the main participants, the survey elicited a wide range of data that, importantly, held true across the range of nominal variables in the thesis, i.e. across the several groups or strata of respondents.

The respondents, collectively, were able to identify:

(a) a common set of problems facing Libyan education; the top five priorities were: Parental co-operation with teachers and the school (1st);

Opportunities for continuing professional development (2nd);

Links between initial training and the curriculum in school (3rd);

Discipline in the school/classroom (4th);

School administration (5th).

(b) a common set of ways in which teachers are striving to address these problems; the four highest frequencies observed were:

Following up the advice from inspectors (1st);

Undertaking personal reading and study (2nd);

Reading specialised textbooks (3rd);

Being involved in school discipline and decision-making (4th).

(c) a common set of issues to be addressed in overcoming or addressing these problems; in terms of priorities the following were the highest rated elements:

Undertaking personal reading and study (1st);

Reading specialised textbooks (2nd);

Using modern methods of teaching (3rd);

Following up the advice from inspectors (4th).

(d) a range of issues in the aims, contents and 'delivery' of INSET to manage the innovations required; the highest priorities were as follows:

Focussing on improving students' achievements/standards (1st);

Disseminating new ideas (2nd);

Inducting new teachers into their schools/the profession (3rd);

Providing opportunities for teachers to work together collegially in solving problems (4th);

Enabling teachers to cope with their professional tasks more successfully (5th).

With regard to attendance at INSET the data indicated that the most preferred pattern of attendance is 'during school time', with the highest priority being given to short award-bearing courses, taking place in their own schools, using demonstration lessons followed by discussion and a combination of styles.

This thesis has been premised not only on the need for human resource development in Libya that, itself, develops from a careful needs assessment, but that human capital development and human resource development in Libya, through INSET and onwards to CPD, is a powerful way of embracing the message of this thesis, that innovation, change and their associated INSET have to be built on the 'people' dimension of change. Human capital development feeds into the country's economic and sociocultural development. People are significant resources in Libya, and this thesis has suggested how their capabilities and capacities for change can be developed and utilised creatively for the further development of Libya as it enters mature independence in the next century.

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APPENDIX

1

QUESTIONNAIRE

☐☐☐☐ 1-4

QUESTIONNAIRE ABOUT THE IMPROVEMENT OF TEACHERS' PROFESSIONAL EFFECTIVENESS

A Comprehensive Study For Basic And Secondary Education

Dear Colleague,

This questionnaire is part of a research project that aims to collect data concerning the improvement of teachers' professional effectiveness in basic and secondary education stages in The Great Socialist People's Libyan Arab Jamahiriya.

Your honest and accurate answers will be of great help to the researcher in conducting this research. Please answer all questions as indicated.

Please note that your answers will be treated as confidential and that no individual will be named in the research. Furthermore, the answers will not be used for any purpose other than that of the study.

Most of these questions are designed to be answered by teachers in basic and secondary education. However, the contribution of the inspectors, university tutors and secretary officers in the education field will be of great help to the researcher in this study responding to these questions.

For administration purposes, the questions are numbered in a continuous sequence, although the questionnaire is divided into a series of separate sections.

Thank you for your participation in this research.

Yours sincerely

The Researcher
Mohamed Ali Kshir
University of Durham

SECTION ONE: Personal details

Please tick appropriate box, only one for each question.

		Please leave this o blank
1. Gender:		
Male.....	☐ (1)	Female..... ☐ (2)
		5
2. Age Group:		
25 years or less.....	☐ (1)	26 - 30 years..... ☐ (2)
31 - 40 years.....	☐ (3)	41 - 50 years..... ☐ (4)
51 years and above.....	☐ (5)	
		6
3. Job Status:		
Teacher.....	☐ (1)	Deputy Head teacher..... ☐ (2)
Head teacher.....	☐ (3)	Administrator in Educational Institution..... ☐ (4)
Inspector.....	☐ (5)	University tutor..... ☐ (6)
Secretary officer.....	☐ (7)	Other (please specify)..... ☐ (8)
		7
4. Experience in education:		
5 years or less.....	☐ (1)	6 - 10 years..... ☐ (2)
11-20 years.....	☐ (3)	21 - 30 years..... ☐ (4)
31 years and above.....	☐ (5)	
		8
5. Highest qualification gained:		
General Teacher Training College Diploma.....	☐ (1)	Special Teacher Training College Diploma..... ☐ (2)
Technical Secondary Diploma.....	☐ (3)	First University Degree (BA/BSc)..... ☐ (4)
Higher Degree (Masters/PhD).....	☐ (5)	Other (please specify)..... ☐ (6)
		9
Questions 6-10 apply to school staff only.		
6. Main teaching subject:		
Class teacher.....	☐ (1)	Arabic Language..... ☐ (2)
Islamic Education.....	☐ (3)	Math..... ☐ (4)
Science.....	☐ (5)	Social Sciences..... ☐ (6)
English Language.....	☐ (7)	Computer Studies..... ☐ (8)
Technology.....	☐ (9)	Art..... ☐ (10)
Physical Education.....	☐ (11)	Other (please specify)..... ☐ (12)
Do not teach.....	☐ (13)	
		10
7. Type of institution in which you work:		
Basic Education School.....	☐ (1)	General Secondary School..... ☐ (2)
Technical Secondary School.....	☐ (3)	Teacher Training College..... ☐ (4)
Other (please specify).....	☐ (5)	
		11
8. Average number of students in the class(es) taught:		
10 or less.....	☐ (1)	11 - 15..... ☐ (2)
16 - 20.....	☐ (3)	21 - 25..... ☐ (4)
26 - 30.....	☐ (5)	31 or over..... ☐ (6)
Do not teach.....	☐ (7)	
		12
9. Main level of class(es) taught in basic education:		
First to Fourth.....	☐ (1)	Fifth to Sixth..... ☐ (2)
Seventh to Ninth.....	☐ (3)	Equally distributed..... ☐ (4)
Do not teach.....	☐ (5)	
		13
10. Location of the institution:		
Urban.....	☐ (1)	Rural..... ☐ (2)
Remote Area.....	☐ (3)	
		14

SECTION TWO: Difficulties teachers face in their work

The following statements describe some points which could be difficulties you may face in your work as a teacher. Please indicate (by circling the appropriate number) how strongly you agree or disagree that these items are problematical in your situation for each statement below.

- 1 = Strongly agree
- 2 = Agree
- 3 = Undecided
- 4 = Disagree
- 5 = Strongly disagree

						Please leave this column blank
11. Adequate subject knowledge.....	1	2	3	4	5	15
12. Rate of change and innovation in the curriculum.....	1	2	3	4	5	16
13. Amount of change and innovation in the curriculum.....	1	2	3	4	5	17
14. Preparation of teachers during their initial training course	1	2	3	4	5	18
15. Links between initial training and the curriculum in school	1	2	3	4	5	19
16. Teacher-Inspector relationships	1	2	3	4	5	20
17. Teaching techniques (methodology and pedagogy)	1	2	3	4	5	21
18. Opportunities for continued professional development	1	2	3	4	5	22
19. Individual differences between students in class.....	1	2	3	4	5	23
20. Assessment and evaluation of students	1	2	3	4	5	24
21. Parents' co-operation with teachers and the school	1	2	3	4	5	25
22. Students' standards of achievement /performance	1	2	3	4	5	26
23. Class size (number of students in class).....	1	2	3	4	5	27
24. Pupil-Pupil relationships.....	1	2	3	4	5	28
25. Discipline in school/classroom	1	2	3	4	5	29
26. School administration	1	2	3	4	5	30
27. School building/premises.....	1	2	3	4	5	31
28. Teaching resources/facilities/equipment available in school.....	1	2	3	4	5	32
29. Non financial incentives/rewards.....	1	2	3	4	5	33
30. Financial incentives	1	2	3	4	5	34
31. Other (please specify) _____	1	2	3	4	5	35

If you would like to make additional comments or suggestions about this section, please use the space below.

SECTION THREE: Improving teachers' professional effectiveness at present

There are several ways teachers use to improve their professional effectiveness. Please indicate (by circling the appropriate number) which items you are using now to improve your professional effectiveness.

- 1 = A very great deal
- 2 = Quite a lot
- 3 = A little
- 4 = Very little
- 5 = Not at all

" I am"

						Please leave this column blank
32. Undertaking personal reading and study	1	2	3	4	5	36
33. Using modern techniques such as computer, video and media programmes	1	2	3	4	5	37
34. Reading specialised textbook(s).....	1	2	3	4	5	38
35. Attending courses.....	1	2	3	4	5	39
36. Attending workshops and seminars	1	2	3	4	5	40
37. Using modern methods of teaching	1	2	3	4	5	41
38. Teaching a different groups of students	1	2	3	4	5	42
39. Working with other teachers (using observation and discussion).....	1	2	3	4	5	43
40. Visiting other schools.....	1	2	3	4	5	44
41. Exchanging information with other institutions.....	1	2	3	4	5	45
42. Following up the advice from inspectors.....	1	2	3	4	5	46
43. Being involved in school discipline and decision-making.....	1	2	3	4	5	47
44. Other (please specify) _____	1	2	3	4	5	48

If you would like to make additional comments or suggestions about this section, please use the space below.

SECTION FOUR: Improving teachers’ professional effectiveness in future

There are several ways of helping teachers to improve their professional effectiveness. Please indicate (by circling the appropriate number) how in future you feel each item might help you to improve your professional effectiveness.

- 1 = Very important
- 2 = Important
- 3 = Not sure
- 4 = Not important
- 5 = Not at all important

"I feel that the following items will help me"

						Please leave this column blank
45. Undertaking personal reading and study	1	2	3	4	5	49
46. Using modern techniques such as computer, video and media programmes	1	2	3	4	5	50
47. Reading specialised textbook(s)	1	2	3	4	5	51
48. Attending courses	1	2	3	4	5	52
49. Attending workshops and seminars	1	2	3	4	5	53
50. Using modern methods of teaching	1	2	3	4	5	54
51. Teaching a different groups of students	1	2	3	4	5	55
52. Working with other teachers (using observation and discussion).....	1	2	3	4	5	56
53. Visiting other schools	1	2	3	4	5	57
54. Exchanging information with other institutions.....	1	2	3	4	5	58
55. Following up the advice from inspectors.....	1	2	3	4	5	59
56. Being involved in school discipline and decision-making.....	1	2	3	4	5	60
57. Other (please specify) _____	1	2	3	4	5	61

If you would like to make additional comments or suggestions about this section, please use the space below.

SECTION FIVE: Perceptions, opinions and preferences in the field of Continuing Professional Development (CPD)

A) A lot of CPD is organised as In-Service Education of Teachers (INSET). The following statements relate to a range of activities which could improve teachers' professional effectiveness through the provision of INSET.

Please indicate (by circling the appropriate number) how strongly you agree or disagree with each statement from your own personal view.

1 = Strongly agree

2 = Agree

3 = Undecided

4 = Disagree

5 = Strongly disagree

	1	2	3	4	5	
58. INSET programmes should enable teachers to carry out new duties.....	1	2	3	4	5	62
59. INSET programmes should improve teachers' managerial skills	1	2	3	4	5	63
60. INSET programmes should provide opportunities to get away from the school environment.....	1	2	3	4	5	64
61. INSET programmes should help teachers to overcome deficits of initial training.....	1	2	3	4	5	65
62. INSET programmes should provide opportunities for teachers to meet with other institutions' staff.....	1	2	3	4	5	66
63. INSET programmes should be centred on improving teaching methods.....	1	2	3	4	5	67
64. INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects.....	1	2	3	4	5	68
65. INSET programmes should enable teachers to cope with their professional tasks more successfully.....	1	2	3	4	5	69
66. INSET programmes could provide the best possible way of disseminating new ideas...	1	2	3	4	5	70
67. INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice	1	2	3	4	5	71
68. INSET programmes should improve class management skills	1	2	3	4	5	72
69. INSET programmes should provide opportunities to obtain new promotion	1	2	3	4	5	73
70. INSET programmes should focus on topics which teachers think are important.....	1	2	3	4	5	74
71. INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators	1	2	3	4	5	75
72. INSET programmes should be a continuing process	1	2	3	4	5	76
73. INSET programmes should help parental involvement in their children's education	1	2	3	4	5	77
74. INSET programmes should be a high priority in the Libyan education system.....	1	2	3	4	5	78
75. INSET programmes should focus on improving students' achievements/standards.....	1	2	3	4	5	79

Please leave
this column
blank

76. INSET programmes should be used to improve the quality and use of assessment of students.....	1	2	3	4	5	80
77. INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems	1	2	3	4	5	81
78. INSET programmes should provide opportunities for teachers to engage in a variety of activities.....	1	2	3	4	5	82
79. INSET programmes should be used to benefit from a range of resources in school.....	1	2	3	4	5	83
80. INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion.....	1	2	3	4	5	84
81. INSET programmes should benefit the whole school.....	1	2	3	4	5	85
82. INSET programmes should induct new teachers into their schools and the profession..	1	2	3	4	5	86
83. If teachers were involved in planning INSET programmes, their commitment to them would be greater	1	2	3	4	5	87
84. Every teacher should be required to participate in INSET programmes regularly.....	1	2	3	4	5	88
85. There should be incentives for attending INSET programmes to encourage teachers' attendance.....	1	2	3	4	5	89
86. The head teacher should be responsible for INSET in his/her school	1	2	3	4	5	90
87. Practical techniques are more useful than theory in INSET programmes.....	1	2	3	4	5	91
88. Teachers should be released during school time to attend INSET programmes where necessary.....	1	2	3	4	5	92
89. There should be use of educational technology in INSET programmes	1	2	3	4	5	93
90. Inspectors are more qualified than teachers to identify the need for INSET programmes	1	2	3	4	5	94
91. In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes.....	1	2	3	4	5	95
92. Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance	1	2	3	4	5	96
93. Assessment of teachers during INSET activities would undermine the INSET programmes	1	2	3	4	5	97
94. Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject	1	2	3	4	5	98
95. Teachers attending INSET programmes should have teaching experience in the subject	1	2	3	4	5	99
96. Teachers attending INSET programmes should have administrative experience	1	2	3	4	5	100
97. The overall performance of the teacher should be taken into consideration in participation of INSET programmes.....	1	2	3	4	5	101

B) When would you prefer to attend INSET courses? Please indicate (by circling the appropriate number) your preferences below (e.g. 1 = most preferred and 5 = least preferred).

							Please leave this column blank
98. During school time	1	2	3	4	5		102
99. Evenings.....	1	2	3	4	5		103
100. Weekends	1	2	3	4	5		104
101. School vacations.....	1	2	3	4	5		105
102. Summer holidays.....	1	2	3	4	5		106
103. A combination of the above times.....	1	2	3	4	5		107
104. Other (please specify) _____	1	2	3	4	5		108

C) Which type of INSET courses would you prefer? Please indicate (by circling the appropriate number) your preferences below (e.g. 1 = most preferred and 5 = least preferred).

105. Long-award-bearing courses	1	2	3	4	5		109
106. Short-award-bearing courses.....	1	2	3	4	5		110
107. Short non-award-bearing courses	1	2	3	4	5		111
108. Workshops and study groups	1	2	3	4	5		112
109. INSET provision with other school(s).....	1	2	3	4	5		113
110. A combination of the above courses.....	1	2	3	4	5		114
111. Other (please specify) _____	1	2	3	4	5		115

D) Where would you like the INSET course to take place? Please indicate (by circling the appropriate number) your preferences below (e.g. 1 = most preferred and 5 = least preferred).

112. Own School.....	1	2	3	4	5		116
113. Other schools.....	1	2	3	4	5		117
114. Teacher Training College.....	1	2	3	4	5		118
115. University	1	2	3	4	5		119
116. A combination of the above locations	1	2	3	4	5		120
117. Other (please specify) _____	1	2	3	4	5		121

E) Which teaching techniques do you feel would be most effective in INSET courses for you? Please indicate (by circling the appropriate number) your preferences below (e.g. 1 = most effective and 5 = least effective).

						Please leave this column blank
118. Lectures	1	2	3	4	5	122
119. Seminars (tutorial group).....	1	2	3	4	5	123
120. Workshops	1	2	3	4	5	124
121. Micro-teaching sessions	1	2	3	4	5	125
122. Demonstration lessons followed by discussion	1	2	3	4	5	126
123. Radio broadcasts	1	2	3	4	5	127
124. T. V. broadcasts	1	2	3	4	5	128
125. A combination of the above methods	1	2	3	4	5	129
126. Other (please specify) _____	1	2	3	4	5	130

If you would like to make additional comments on any questions or to suggest other aspects of the CPD or INSET issues, please make use of the space below. I would be grateful for your comments.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook or legal pad style.

Thank you for completing the questions. Please remember to return the completed form to _____

استبيان حول تحسين الكفاءة المهنية للمعلمين دراسة شاملة تختص بقطاع التعليم فى مرحلتى التعليم الاساسى والمتوسط

عزيزى المعلم .. ،

هذا الاستبيان هو جزء من مشروع بحث يهدف الى تجميع معلومات بخصوص تحسين الكفاءة المهنية للمعلمين فى مرحلتى التعليم الاساسى والمتوسط بالجامهيرية العربية الليبية الشعبية الإشتراكية العظمى .

ان اجوبتك الصادقة والدقيقة ستساعد كثيرا فى إنجاح هذا البحث ، لذلك نرجو الاجابة على جميع الاسئلة الواردة ، مع العلم ان اجوبتك ستعامل بسرية تامة ولاداعي لذكر اسمك بهذا الاستبيان ، علاوة على ان الاجوبة سوف لن تستعمل لأى غرض عدا هذه الدراسة .

لقد توجهنا فى معظم أسئلة هذا الاستبيان إلى معلمي مرحلتى التعليم الاساسى والمتوسط ومع ذلك فإن مساهمة الإخوة المفتشين التربويين وأساتذة الجامعات والاداريين بقطاع التعليم ستساعدنا كثيرا على الاستفادة من هذه الدراسة .

ملاحظة : قسم هذا الاستبيان إلى خمسة فصول متتالية ولغرض تنظيمي بحث ورد ترقيم الأسئلة بالتسلسل فى جميع الفصول .

نشكر جميع المساهمين فى هذا العمل على حسن تعاونهم معنا

الباحث : محمد على كشير

جامعة درهم

المملكة المتحدة

الفصل الأول : بيانات شخصية

يرجى اختيار إجابة واحدة فقط لكل سؤال وذلك بوضع علامة (✓) في المربع المخصص امام الأجابة التي تراها مناسبة

يرجى ترك
الخانة فار

- 1- الجنس : ذكر ☐ (1) أنثى ☐ (2)
2. العمر : 25 سنة فأقل ☐ (1) 26 - 30 سنة ☐ (2) 31 - 40 سنة ☐ (3) 41 - 50 سنة ☐ (4) 51 سنة فأكثر ☐ (5)
3. الوظيفة : معلم ☐ (1) مدير مؤسسة تعليمية ☐ (3) مفتش تربوي ☐ (5) موظف بأمانة التعليم ☐ (7) مساعد مدير ☐ (2) إداري بمؤسسة تعليمية ☐ (4) مدرس جامعي ☐ (6) وظيفة أخرى (حدد) ☐ (8)
4. الخبرة في مجال التعليم : 5 سنوات فأقل ☐ (1) 6 - 10 سنوات ☐ (2) 11 - 20 سنة ☐ (3) 21 - 30 سنة ☐ (4) 31 سنة فأكثر ☐ (5)
5. أعلى مؤهل متحصل عليه : إجازة تدريس عامة ☐ (1) إجازة تدريس خاصة ☐ (2) دبلوم ثانوية تخصصية ☐ (3) درجة عليا (ماجستير ، دكتوراه) ☐ (5) شهادة جامعية ☐ (4) درجة أخرى (حدد) ☐ (6)
- الأسئلة من 6 - 10 تخص العاملين بالمدارس فقط
6. المادة الرئيسية التي تقوم بتدريسها : معلم فصل ☐ (1) التربية الإسلامية ☐ (3) علوم ☐ (5) لغة إنجليزية ☐ (7) تقنية ☐ (9) تربية بدنية ☐ (11) لا أقوم بالتدريس ☐ (13) لغة عربية ☐ (2) رياضيات ☐ (4) علوم إجتماعية (إجتماعات) ☐ (6) دراسة حاسوب ☐ (8) تربية فنية ☐ (10) مادة أخرى (حدد) ☐ (12)
7. نوع المؤسسة التعليمية التي تعمل بها : مدرسة تعليم أساسي ☐ (1) مدرسة ثانوية تخصصية ☐ (3) مؤسسة أخرى (حدد) ☐ (5) مدرسة ثانوية عامة ☐ (2) معهد معلمين ومعلمات ☐ (4)
8. متوسط عدد الطلاب بالفصل الذي تدرسه : 10 طلاب فأقل ☐ (1) 11 - 15 طالبا ☐ (2) 16 - 20 طالبا ☐ (3) 21 - 25 طالبا ☐ (4) 26 - 30 طالبا ☐ (5) 31 طالبا فأكثر ☐ (7) لا أقوم بالتدريس
9. الفصل الذي تدرسه في مرحلة التعليم الأساسي : من الأول إلى الرابع ☐ (1) من السابع إلى التاسع ☐ (3) لا أقوم بالتدريس ☐ (5) من الخامس إلى السادس ☐ (2) جميع الفصول بالتساوي ☐ (4)
10. مواقع المؤسسة التعليمية التي تعمل بها : مدينة ☐ (1) منطقة نائية ☐ (3) قرية ☐ (2)

الفصل الثاني : الصعوبات التي تواجه المعلمين في عملهم

النقاط الآتية تعرض بعض المواضيع التي قد تشكل صعوبات يمكن ان تواجهها في عملك كمعلم . وضع مدى ملائمتها لوضعك ، وذلك يرسم دائرة حول الرقم المناسب مع ملاحظة أن :

- ① أوافق بشدة
② أوافق
③ غير متأكد
④ لا أوافق
⑤ لا أوافق إطلاقاً

يرجى ترك هذه
الخانة فارغة

15	5	4	3	2	1	11 . المعرفة الكافية في مجال التخصص -----
16	5	4	3	2	1	12 . معدل التغيير والتجديد في المنهج -----
17	5	4	3	2	1	13 . مقدار التغيير والتجديد في المنهج -----
18	5	4	3	2	1	14 . الاعداد الأساسية للمعلمين أثناء دراستهم -----
19	5	4	3	2	1	15 . العلاقة بين الاعداد الاساسي للمعلم والمنهج الذي يقوم بتدريسه -----
20	5	4	3	2	1	16 . علاقة المعلم بالمفئش التربوي -----
21	5	4	3	2	1	17 . طرق التدريس -----
22	5	4	3	2	1	18 . فرص تحسين الكفاءة المهنية بشكل متواصل -----
23	5	4	3	2	1	19 . الفروق الفردية بين طلاب الفصل الواحد -----
24	5	4	3	2	1	20 . إمتحانات الطلاب -----
25	5	4	3	2	1	21 . تعاون أولياء الأمور -----
26	5	4	3	2	1	22 . مستوى التحصيل والاداء لدى الطلاب -----
27	5	4	3	2	1	23 . حجم الفصل الدراسي (عدد الطلاب في الفصل) -----
28	5	4	3	2	1	24 . علاقة الطلاب مع بعضهم -----
29	5	4	3	2	1	25 . الضبط والربط بالمدرسة والفصل -----
30	5	4	3	2	1	26 . الإدارة المدرسية -----
31	5	4	3	2	1	27 . المبنى المدرسي ومرافقه -----
32	5	4	3	2	1	28 . الموارد والامكانيات المتوفرة بالمدرسة -----
33	5	4	3	2	1	29 . الحوافز المعنوية -----
34	5	4	3	2	1	30 . الحوافز المادية -----
35	5	4	3	2	1	31 . نقاط اخرى (حدد) -----

إذا اردت ان تضيف أية ملاحظات او اقتراحات حول هذا الفصل ، يرجى استعمال الفراغ المخصص أدناه

هناك العديد من الطرق التي يستعملها المعلمون لتحسين كفاءتهم المهنية . يرجى التوضيح (برسم دائرة حول الرقم المناسب) اى من النقاط التالية تستعملها **الآن** من أجل تحسين كفاءتك المهنية مع ملاحظة أن :

- ① كثيرا جدا
 ② كثيرا
 ③ قليلا
 ④ قليلا جدا
 ⑤ ابدا

” انا اقوم به ”

36	5	4	3	2	1	32 . المطالعة والدراسة الشخصية -----
37	5	4	3	2	1	33 . استعمال التقنيات الحديثة مثل الحاسوب والفيديو والبرامج الاذاعية -
38	5	4	3	2	1	34 . مطالعة الكتب المتخصصة -----
39	5	4	3	2	1	35 . حضور دورات تدريبية -----
40	5	4	3	2	1	36 . حضور ورش العمل والحلقات الدراسية -----
41	5	4	3	2	1	37 . استعمال طرق تدريس حديثة -----
42	5	4	3	2	1	38 . تدريس مجموعات مختلفة من الطلاب -----
43	5	4	3	2	1	39 . العمل مع معلمين آخرين (مستعملا أسلوب الملاحظة والنقاش) ----
44	5	4	3	2	1	40 . زيارة مدارس اخرى -----
45	5	4	3	2	1	41 . تبادل المعلومات مع مؤسسات تعليمية اخرى -----
46	5	4	3	2	1	42 . اتباع ارشادات المفتشين التربويين -----
47	5	4	3	2	1	43 . المشاركة فى تنظيم المدرسة وإتخاذ القرار -----
48	5	4	3	2	1	44 . طرق أخرى (حدد) -----

إذا أردت أن تضيف أية ملاحظات أو اقتراحات حول هذا الفصل ، يرجى استعمال الفراغ المخصص أدناه

الفصل الخامس : الآراء والمفاهيم حول موضوع " التطور المهني المتواصل "

أ . التطور المهني المتواصل غالبا ماينظم على أساس تدريب المعلمين أثناء الخدمة .
النقاط التالية تتعلق بعدد من الأنشطة التي يمكن أن تسهم في تحسين الكفاءة المهنية للمعلمين خلال التدريب أثناء الخدمة .

يرجى التوضيح (برسم دائرة حول الرقم المناسب) درجة موافقتك على هذه النقاط ، ومن وجهة نظرك الشخصية مع ملاحظة أن :

- ① أوافق بشدة
- ② أوافق
- ③ غير متأكد
- ④ لاوافق
- ⑤ لاأوافق على الإطلاق

يرجى ترك

الخانة فار

62	5	4	3	2	1	-----	58 . برامج التدريب أثناء الخدمة يجب ان تمكن المعلمين من القيام بمهام جديدة
63	5	4	3	2	1	-----	59 . برامج التدريب أثناء الخدمة يجب ان تحسن المهارات الادارية للمعلمين
64	5	4	3	2	1	-----	60 . برامج التدريب أثناء الخدمة يجب ان تتيح الفرص للابتعاد عن حجر المدرسي
65	5	4	3	2	1	-----	61 . برامج التدريب أثناء الخدمة يجب ان تساعد المعلمين على التغلب على سلبات اعدا لهم الاساسي
66	5	4	3	2	1	-----	62 . برامج التدريب أثناء الخدمة يجب ان تتيح الفرص للمعلمين للالتقاء مع العاملين بالمؤسسات التعليمية الأخرى
67	5	4	3	2	1	-----	63 . برامج التدريب أثناء الخدمة يجب ان تتركز حول طرق التدريس
68	5	4	3	2	1	-----	64 . برامج التدريب أثناء الخدمة يجب ان تتركز على اكتساب وتعميق معارف جديدة في شتى المواضيع المدرسية
69	5	4	3	2	1	-----	65 . برامج التدريب أثناء الخدمة يجب ان تمكن المعلمين للقيام بواجباتهم المهنية بنجاح اكثر
70	5	4	3	2	1	-----	66 . برامج التدريب أثناء الخدمة يجب ان تقدم أفضل الوسائل الممكنة لنشر أفكار تربوية جديدة
71	5	4	3	2	1	-----	67 . برامج التدريب أثناء الخدمة يجب ان تركز على احداث تعديل في مواقف ومفاهيم المعلمين فيما يتعلق بممارسة التدريس الجيد
72	5	4	3	2	1	-----	68 . برامج التدريب أثناء الخدمة يجب ان تحسن المهارات المتعلقة بادارة الفصل
73	5	4	3	2	1	-----	69 . برامج التدريب أثناء الخدمة يجب ان تتيح الفرص للحصول على ترقية جديدة
74	5	4	3	2	1	-----	70 . برامج التدريب أثناء الخدمة يجب ان تركز على المواضيع التي يرى المعلمون بأنها مهمة
75	5	4	3	2	1	-----	71 . برامج التدريب أثناء الخدمة يجب ان تتيح الفرص للمعلمين الموهوبين لأظهار خبرتهم كمحاضرين ومدرسين
76	5	4	3	2	1	-----	72 . برامج التدريب أثناء الخدمة يجب ان تكون عملية مستمرة
77	5	4	3	2	1	-----	73 . برامج التدريب أثناء الخدمة يجب ان تساعد أولياء الامور للمشاركة في تعليم أبنائهم
78	5	4	3	2	1	-----	74 . برامج التدريب أثناء الخدمة يجب ان تعطى الأولوية في نظام التعليم بالجامعية
79	5	4	3	2	1	-----	75 . برامج التدريب أثناء الخدمة يجب ان تركز على تحسين مستوى التحصيل لدى الطلاب

80	5	4	3	2	1	76 . برامج التدريب أثناء الخدمة يجب ان تساعد على تحسين كفاءة تفهم الطلاب -----
81	5	4	3	2	1	77 . برامج التدريب أثناء الخدمة يجب ان تتيح الفرص للمعلمين للعمل مع بعضهم لمعالجة المشاكل المدرسية -----
82	5	4	3	2	1	78 . برامج التدريب أثناء الخدمة يجب ان تتيح الفرص للمعلمين لاتحامهم فى نشاطات متنوعة -----
83	5	4	3	2	1	79 . برامج التدريب أثناء الخدمة يجب ان تستعمل للأستفادة من مختلف الموارد فى المدرسة -----
84	5	4	3	2	1	80 . برامج التدريب أثناء الخدمة يجب ألا تقدم بطريقة تقليدية كقصص الجامعة والمعهد ، بل بطريقة أكثر بساطة -----
85	5	4	3	2	1	81 . برامج التدريب أثناء الخدمة يجب ان تنفذ كل المدرسة -----
86	5	4	3	2	1	82 . برامج التدريب أثناء الخدمة يجب أن تساعد المعلمين حديثي التخرج على التكيف المهني -----
87	5	4	3	2	1	83 . اذا شارك المعلمون فى تخطيط برامج التدريب أثناء الخدمة فإن التزامهم بها يكون اكبر -----
88	5	4	3	2	1	84 . يجب ان يطلب من كل معلم المشاركة فى برامج التدريب أثناء الخدمة بصفة دورية -----
89	5	4	3	2	1	85 . يجب ان يكون هناك حوافز للمشاركة فى برامج التدريب أثناء الخدمة وذلك لتشجيع المعلمين على الحضور -----
90	5	4	3	2	1	86 . مدير المدرسة يجب ان يكون مسئولاً عن برامج التدريب أثناء الخدمة فى مدرسته -----
91	5	4	3	2	1	87 . الأساليب العملية أكثر فائدة من النظرية فى برامج التدريب أثناء الخدمة -----
92	5	4	3	2	1	88 . يجب تشجيع المعلمين أثناء طوالم المدرسي لحضور دورات التدريب أثناء الخدمة اذا كان ضروريا -----
93	5	4	3	2	1	89 . يجب ان يكون هناك استخدام للتقنية فى برامج التدريب أثناء الخدمة -----
94	5	4	3	2	1	90 . المفتشون التربويون أكثر تأهيلا من المعلمين فى تحديد الحاجة لبرامج التدريب أثناء الخدمة -----
95	5	4	3	2	1	91 . يجب تخصيص معلم مسئول على تسيق برامج التدريب أثناء الخدمة فى كل مدرسة -----
96	5	4	3	2	1	92 . يجب ان تتوفر الفرص للمعلمين لأكتفاء نوع التدريب أثناء الخدمة الذى يشعرون له بقوى من اذاتهم المهني -----
97	5	4	3	2	1	93 . تفهم المعلمون خلال التدريب أثناء الخدمة بقتل الفائدة منها -----
98	5	4	3	2	1	94 . المعلمون الذين يشاركون فى برامج التدريب أثناء الخدمة ليس من الضروري ان يكونوا حاصلين على درجة من نفس التخصص -----
99	5	4	3	2	1	95 . المعلمون الذين يشاركون فى برامج التدريب أثناء الخدمة يجب ان تكون لديهم خبرة فى مجال التخصص -----
100	5	4	3	2	1	96 . المعلمون الذين يشاركون فى برامج التدريب أثناء الخدمة يجب ان تكون لديهم خبرة ادارية بالموضوع -----
101	5	4	3	2	1	97 . الاداء العام للمعلم يجب ان يؤخذ فى الاعتبار للمشاركة فى برامج التدريب أثناء الخدمة -----

ب - **ملئ** تفضل حضور دورات برامج التدريب أثناء الخدمة ؟ يرجى توضيح أجابتك (برسم دائرة حول الرقم المناسب) حسب مفاضلتك مع ملاحظة (أن 1 تعادل الأكثر تفضيلا و 5 تعادل الأقل تفضيلا)

يرجى ترك هذه
الخانة فارغة

102	5	4	3	2	1	-----	98 . أثناء فترة الدوام المدرسي
103	5	4	3	2	1	-----	99 . في المساء
104	5	4	3	2	1	-----	100 . في العطلات الاسبوعية
105	5	4	3	2	1	-----	101 . أثناء الاجازة المدرسية
106	5	4	3	2	1	-----	102 . أثناء العطلة الصيفية
107	5	4	3	2	1	-----	103 . أسلوب يجمع بين الأوقات المبينة أعلاه
108	5	4	3	2	1	-----	104 . أى وقت آخر (حدد)

ج - **اى نوع** من دورات برامج التدريب أثناء الخدمة تفضل ؟. يرجى توضيح أجابتك (برسم دائرة حول الرقم المناسب) حسب مفاضلتك مع ملاحظة (أن 1 تعادل الأكثر تفضيلا و 5 تعادل الأقل تفضيلا)

109	5	4	3	2	1	-----	105 . دورات طويلة مع مكافأة
110	5	4	3	2	1	-----	106 . دورات قصيرة بمكافأة
111	5	4	3	2	1	-----	107 . دورات قصيرة بدون مكافأة
112	5	4	3	2	1	-----	108 . ورش عمل وحلقات نقاش دراسية
113	5	4	3	2	1	-----	109 . برامج مع مدارس أخرى
114	5	4	3	2	1	-----	110 . أسلوب يجمع بين الدورات المبينة أعلاه
115	5	4	3	2	1	-----	111 . أى دورة أخرى (حدد)

د - **اين** تفضل ان تقام دورات التدريب أثناء الخدمة ؟ . يرجى توضيح أجابتك (برسم دائرة حول الرقم المناسب) حسب مفاضلتك مع ملاحظة (أن 1 تعادل الأكثر تفضيلا و 5 تعادل الأقل تفضيلا)

116	5	4	3	2	1	-----	112 . فى مدرستى
117	5	4	3	2	1	-----	113 . فى مدارس اخرى
118	5	4	3	2	1	-----	114 . فى معهد تأهيل المعلمين
119	5	4	3	2	1	-----	115 . فى الجامعة
120	5	4	3	2	1	-----	116 . أسلوب يجمع بين المواقع المبينة أعلاه
121	5	4	3	2	1	-----	117 . أى موقع آخر (حدد)

APPENDIX

2

PRACTICAL CONSIDERATIONS IN QUESTIONNAIRE DESIGN

Cohen, Manion and Morrison (forthcoming) set out a range of practical implications for designing a questionnaire can be highlighted:

1. Operationalize the purposes of the questionnaire carefully.
2. Decide on the most appropriate *type* of question - dichotomous, multiple choice, rank orderings, rating scales, closed, open.
3. Ensure that every issue has been explored thoroughly - exhaustively and comprehensively - decide on the content and explore it in depth and breadth.
4. Ensure that the data acquired will answer the research questions.
5. Ask, for ease of analysis (particularly of a large sample) more closed than open questions.
6. Balance comprehensiveness and exhaustive coverage of issues with the demotivating factor of having respondents complete several pages of a questionnaire.
7. Ask only one thing at a time in a question.
8. Strive to be unambiguous and clear in the wording.
9. Be simple, clear and brief wherever possible.
10. Balance brevity with politeness (Oppenheim; 1992: 122). It might be advantageous to replace a staccato phrase like 'marital status' with a gentler 'please indicate....' or 'I would be grateful if....'
11. Ensure a balance of questions which ask for facts and opinions (this is especially true if statistical correlations and cross-tabulations are required).
12. Avoid leading questions.
13. Try to avoid threatening questions.
14. Do not assume that respondents know the answer, or have information to answer the questions, or will always tell the truth (wittingly or not). Therefore include

'don't know', 'not applicable', 'unsure', 'neither agree nor disagree' and 'not relevant' categories.

15. Avoid making the questions too hard.

16. Consider the readability levels of the questionnaire and the reading and writing abilities of the respondents (which may lead the researcher to conduct the questionnaire as a structured interview).

17. Put sensitive questions later in the questionnaire in order to avoid creating a mental set in the mind of respondents, but not so late in the questionnaire that boredom and lack of concentration have set in.

18. Be very clear on the layout of the questionnaire so that it is clear and attractive (this is particularly the case if a computer program is going to be used for data analysis).

19. Avoid, where possible, splitting an item over more than one page, as the respondent may think that the item from the previous page is finished.

20. Ensure that the respondent knows how to enter a response to each question, e.g. by underlining, circling, ticking, writing; provide the instructions for introducing, completing and returning (or collection of) the questionnaire (provide a stamped addressed envelope if it is to be a postal questionnaire).

21. Pilot the questionnaire, using a group of respondents who are drawn from the possible sample but who will not receive the final, refined version.

22. Decide how to avoid falsification of responses (e.g. introduce a checking mechanism into the questionnaire responses to another question on the same topic or issue).

23. Be grateful if you receive a 50% response to the questionnaire; decide what you will do with missing data and what is the significance of the missing data (that might have implications for the strata of a stratified sample targeted in the questionnaire), and why the questionnaires have not been completed and returned (e.g. were the questions too threatening, was the questionnaire too long - this might have been signalled in the pilot).

24. Include a covering explanation, giving thanks for anticipated co-operation, indicating the purposes of the research, how anonymity and confidentiality will be addressed, who you are and what position you hold, and who will be party to the final report.

25. If the questionnaire is going to be administered by someone other than the researcher, ensure that instructions for administration are provided and that they are clear.

A key issue that runs right through this lengthy list is for the reader to pay considerable attention to respondents, and to see the questionnaire through their eyes, how they will regard the questionnaire (e.g. from hostility to suspicion to apathy to grudging compliance to welcome; from easy to difficult, from motivating to boring, from straightforward to complex etc.).

APPENDIX

3

CROSTABULATED BIOGRAPHICAL DETAILS BY DIFFICULTIES TEACHERS FACE IN THEIR WORK

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning difficulties teachers face in their work.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 12 (Rate of change and innovation in the curriculum)

(a) slightly more males (68.5%) than females (61.4%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience in their work; (b) slightly more females (25%) than males (21.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided* with slightly more females (13.6%) than males (9.7%).

Item 13 (Amount of change and innovation in the curriculum)

(a) slightly more males (63%) than females (56.4%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience in their work; (b) slightly more females (25.8%) than males (20.2%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of males and females (16.8% and 17.9% respectively).

Item 17 (Teaching techniques (methodology and pedagogy))

(a) slightly more males (78.7%) than females (71.4%) *agreed* that teaching technique is a difficulty that teachers experience in their work; (b) slightly more females (22.2%) than males (16.7%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with quite an even spread of males and females (4.6% and 6.8% respectively).

Item 26 (School administration)

(a) slightly more males (79.9%) than females (75%) *agreed* that school administration is a difficulty that teachers experience in their work; (b) slightly more females (19.1%) than males (13.4%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of males and females (6.7% and 5.9% respectively).

Age group

When one reviews the specifics of the crosstabulated distributions for these rating scale items by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 11 (Adequate subject knowledge)

(a) more of those aged 41 years and above (88.2%) than 40 years or less (73.6%) *agreed* that adequate subject knowledge is a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (21.4%) than 41 years and above (10.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (5%) than 41 years and above (0.8%).

Item 12 (Rate of change and innovation in the curriculum)

(a) more of those aged 41 years and above (75.6%) than 40 years or less (62.6%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (24.6%) than 41 years and above (17.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those aged 40 years or less (12.8%) than 41 years and above (6.7%).

Item 16 (Teacher-Inspector relationships)

(a) more of those aged 41 years and above (79.8%) than 40 years or less (70.1%) *agreed* that teacher-inspector relationships are a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (23.1%) than 41 years and above (15.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those aged 40 years or less and 41 years and above (6.8% and 5% respectively).

Item 17 (Teaching techniques)

(a) more of those aged 41 years and above (84%) than 40 years or less (72.4%) *agreed* that teaching technique is a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (21.3%) than 41 years and above (11.8%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (6.3%) than 41 years and above (4.2%).

Item 19 (Individual differences between students in class)

(a) more of those aged 41 years and above (83.2%) than 40 years or less (71.5%) *agreed* that individual differences between students in class is a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (21.5%) than 41 years and above (10.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those aged 40 years or less and 41 years and above (7% and 6.7% respectively).

Item 22 (Students' standards of achievement/performance)

(a) more of those aged 41 years and above (83.9%) than 40 years or less (75%) *agreed* that students' standards of achievement/performance is a difficulty that teachers experience in their work; (b) slightly more of those aged 40 years or less (15.9%) than 41 years and above (10.2%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (9%) than 41 years and above (5.9%).

Item 23 (Class size)

(a) more of those aged 41 years and above (81.5%) than 40 years or less (69%) *agreed* that class size is a difficulty that teachers experience in their work; (b) more of those

aged 40 years or less (24.6%) than 41 years and above (16%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (6.4%) than 41 years and above (2.5%).

Item 24 (Pupil-Pupil relationships)

(a) more of those aged 41 years and above (71.2%) than 40 years or less (62.6%) *agreed* that pupil-pupil relationships are a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (22.1%) than 41 years and above (14.4%) *disagreed* with the statement; (c) there is an even spread of those aged 40 years or less and 41 years and above (15.3% and 14.4% respectively) who were *undecided*.

Item 25 (Discipline in school/classroom)

(a) more of those aged 41 years and above (88.2%) than 40 years or less (76.2%) *agreed* that discipline in school/classroom is a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (19.1%) than 41 years and above (9.2%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (4.7%) than 41 years and above (2.5%).

Item 27 (School building/premises)

(a) more of those aged 41 years and above (83.2%) than 40 years or less (72.1%) *agreed* that school building/premises is a difficulty that teachers experience in their work; (b) more of those aged 40 years or less (20.9%) than 41 years and above (12.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (7%) than 41 years and above (4.2%).

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 11 (Adequate subject knowledge)

(a) more non school staff (82.9%) than school staff (74.4%) *agreed* that adequate subject knowledge is a difficulty that teachers experience in their work; (b) more school staff (21.1%) than non school staff (12.6%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of school staff and non school staff (4.6% and 4.5% respectively).

Item 22 (Students' standards of achievement/performance)

(a) more non school staff (84.5%) than school staff (75%) *agreed* that students' standards of achievement/performance is a difficulty that teachers experience in their work; (b) more school staff (16.2%) than non school staff (7.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of school staff and non school staff (8.9% and 8.2% respectively).

Item 23 (Class size)

(a) more non school staff (79.3%) than school staff (69.3%) *agreed* that class size is a difficulty that teachers experience in their work; (b) more school staff (24.5%) than non school staff (17.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more school staff (6.2%) than non school staff (3.6%).

Item 25 (Discipline in school/classroom)

(a) more non school staff (88.3%) than school staff (76.2%) *agreed* that discipline in school/classroom is a difficulty that teachers experience in their work; (b) more school staff (18.9%) than non school staff (9.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more school staff (4.9%) than non school staff (1.8%).

Item 26 (School administration)

(a) more non school staff (88.2%) than school staff (75.4%) *agreed* that school administration is a difficulty that teachers experience in their work; (b) more school staff (18.1%) than non school staff (8.2%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more school staff (6.5%) than non school staff (3.6%).

Item 27 (School building/premises)

(a) more non school staff (84.7%) than school staff (72.1%) *agreed* that school building/premises is a difficulty that teachers experience in their work; (b) more school staff (21.1%) than non school staff (9.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of school staff and non school staff (6.8% and 5.4% respectively).

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 11 (Adequate subject knowledge)

(a) more of those with 21 years and above experience (88.3%) than 20 years or less (73.6%) *agreed* that adequate subject knowledge is a difficulty that teachers experience in their work; (b) more of those with 20 years or less experience (21.5%) than 21 years and above (10%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those with 20 years or less experience (4.9%) than 21 years and above (1.7%).

Item 12 (Rate of change and innovation in the curriculum)

(a) more of those with 21 years and above experience (75%) than 20 years or less (62.7%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience in their work; (b) more of those with 20 years or less experience (24.7%) than 21 years and above (16.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those with 20 years or less experience (12.6%) than 21 years and above (8.3%).

Item 13 (Amount of change and innovation in the curriculum)

(a) more of those with 21 years and above experience (68.6%) than 20 years or less (57.5%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience; (b) more of those with 20 years or less experience (24.6%) than 21 years and above (16.9%) *disagreed* with the statement; (c) there is

slightly more of those with 20 years or less experience (17.9%) than 21 years and above (14.4%) were *undecided*.

Item 16 (Teacher-Inspector relationships)

(a) more of those with 21 years and above experience (80.8%) than 20 years or less (69.9%) *agreed* that teacher-inspector relationships are a difficulty that teachers experience; (b) more of those with 20 years or less experience (23.4%) than 21 years and above (13.3%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with 20 years or less experience and 21 years and above (6.7% and 5.8% respectively).

Item 17 (Teaching techniques)

(a) more of those with 21 years and above experience (83.3%) than 20 years or less (72.5%) *agreed* that teaching technique is a difficulty that teachers experience; (b) more of those with 20 years or less experience (21.4%) than 21 years and above (10.8%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with 20 years or less experience and 21 years and above (6.1% and 5.8% respectively).

Item 18 (Opportunities for continued professional development)

(a) more of those with 21 years and above experience (88.3%) than 20 years or less (77.9%) *agreed* that opportunities for continued professional development is a difficulty that teachers experience; (b) more of those with 20 years or less experience (14.1%) than 21 years and above (8.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those with 20 years or less experience (8%) than 21 years and above (3.3%).

Item 19 (Individual differences between students in class)

(a) more of those with 21 years and above experience (82.5%) than 20 years or less (71.6%) *agreed* that individual differences between students in class is a difficulty that teachers experience; (b) more of those with 20 years or less experience (21.3%) than 21 years and above (11.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with quite an even spread of those with 20 years or less experience and 21 years and above (7.1% and 5.8% respectively).

Item 20 (Assessment and evaluation of students)

(a) more of those with 21 years and above experience (76.7%) than 20 years or less (67%) *agreed* that assessment and evaluation of students is a difficulty that teachers experience; (b) more of those with 20 years or less experience (24.9%) than 21 years and above (17.5%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those with 20 years or less experience (8.1%) than 21 years and above (5.8%).

Item 22 (Students' standards of achievement/performance)

(a) more of those with 21 years and above experience (84.9%) than 20 years or less (74.8%) *agreed* that students' standards of achievement/performance is a difficulty that teachers experience; (b) more of those with 20 years or less experience (15.9%) than 21 years and above (10.1%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those with 20 years or less experience (9.2%) than 21 years and above (5%).

Item 23 (Class size)

(a) more of those with 21 years and above experience (79.2%) than 20 years or less (69.2%) *agreed* that class size is a difficulty that teachers experience; (b) more of those with 20 years or less experience (24.4%) than 21 years and above (18.3%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those with 20 years or less experience (6.4%) than 21 years and above (2.5%).

Item 25 (Discipline in school/classroom)

(a) more of those with 21 years and above experience (86.7%) than 20 years or less (76.3%) *agreed* that discipline in school/classroom is a difficulty that teachers experience; (b) more of those with 20 years or less experience (18.9%) than 21 years and above (10%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with 20 years or less experience and 21 years and above (4.7% and 3.3% respectively).

Item 27 (School building/premises)

(a) more of those with 21 years and above experience (81.5%) than 20 years or less (72.3%) *agreed* that school building/premises is a difficulty that teachers experience;

(b) more of those with 20 years or less experience (20.8%) than 21 years and above (13.4%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with quite an even spread of those with 20 years or less experience and 21 years and above (6.9% and 5% respectively).

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 12 (Rate of change and innovation in the curriculum)

(a) slightly more of those with a degree qualification (68.3%) than diploma (60%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience; (b) there is an even spread of those with a diploma and degree qualification (24.4% and 23% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma (15.6%) than degree qualification (8.7%).

Item 13 (Amount of change and innovation in the curriculum)

(a) more of those with a degree qualification (63.9%) than diploma (54.1%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience; (b) slightly more of those with a diploma qualification (26.7%) than degree (20.7%) *disagreed* with the statement; (c) a quite small proportion of responses were *undecided*, with more of those with a diploma qualification (19.2%) than degree (15.4%).

Item 14 (Preparation of teachers during their initial course)

(a) more of those with a degree qualification (82.7%) than diploma (71%) *agreed* that preparation of teachers during their initial course is a difficulty that teachers experience; (b) more of those with a diploma qualification (23.7%) than degree (12.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with a diploma and degree qualifications (5.3% and 5.2% respectively).

Item 15 (Links between initial training and the curriculum in school)

(a) slightly more of those with a degree qualification (80.9%) than diploma (75.9%) *agreed* that links between initial training and the curriculum in school is a difficulty that teachers experience; (b) slightly more of those with a diploma qualification (16.8%) than degree (12.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of those with a diploma and degree qualifications (7.3% and 6.3% respectively).

Item 16 (Teacher-Inspector relationships)

(a) slightly more of those with a degree qualification (73.5%) than diploma (68.6%) *agreed* that teacher-inspector relationships are a difficulty that teachers experience; (b) slightly more of those with a diploma qualification (25.4%) than degree (19.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with an even spread of those with a diploma and degree qualifications (5.9% and 7.2% respectively).

Item 18 (Opportunities for continued professional development)

(a) slightly more of those with a degree qualification (82.2%) than diploma (76.1%) *agreed* that opportunities for continued professional development is a difficulty that teachers experience; (b) there is a quite even spread of those with a diploma and degree qualifications (14.6% and 12.2% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma qualification (9.4%) than degree (5.6%).

Item 22 (Students' standards of achievement/performance)

(a) more of those with a degree qualification (80.3%) than diploma (71.8%) *agreed* that students' standards of achievement/performance is a difficulty that teachers experience; (b) slightly more of those with a diploma qualification (16.6%) than degree (13.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma qualification (11.6%) than degree (6%).

Item 23 (Class size)

(a) more of those with a degree qualification (76.8%) than diploma (63.8%) *agreed* that class size is a difficulty that teachers experience; (b) more of those with a diploma qualification (28.6%) than degree (18.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma qualification (7.6%) than degree (4.3%).

Item 24 (Pupil-Pupil relationships)

(a) slightly more of those with a degree qualification (67%) than diploma (60.2%) *agreed* that pupil-pupil relationships are a difficulty that teachers experience; (b) more of those with a diploma qualification (25%) than degree (17.4%) *disagreed* with the statement; (c) there is an even spread of those with a diploma and degree qualifications (14.8% and 15.6% respectively) who were *undecided*.

Item 25 (Discipline in school/classroom)

(a) more of those with a degree qualification (81.5%) than diploma (73.5%) *agreed* that discipline in school/classroom is a difficulty that teachers experience; (b) slightly more of those with a diploma qualification (20.2%) than degree (15.7%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with a diploma qualification (6.3%) than degree (2.8%).

Item 26 (School administration)

(a) slightly more of those with a degree qualification (79.5%) than diploma (73.9%) *agreed* that school administration is a difficulty that teachers experience; (b) there is an even spread of those with a diploma and degree qualifications (19.3% and 14.9% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with a diploma and degree qualifications (6.8% and 5.6 respectively).

Item 27 (School building/premises)

(a) more of those with a degree qualification (77.7%) than diploma (69%) *agreed* that school building/premises is a difficulty that teachers experience; (b) more of those with a diploma qualification (22.9%) than degree (17.1%) *disagreed* with the

statement; **(c)** a small proportion of responses were *undecided*, with more of those with a diploma qualification (8.1%) than degree (5.2%).

Item 28 (Teaching resources/facilities/equipment available in school)

(a) more of those with a degree qualification (75.6%) than diploma (66.8%) *agreed* that teaching resources is a difficulty that teachers experience; **(b)** more of those with a diploma qualification (22.9%) than degree (17.5%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of those with a diploma qualification (10.3%) than degree (6.9%).

Main subject

When one reviews the specifics of the crosstabulated distributions for these rating scale items by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 11 (Adequate subject knowledge)

(a) a high proportion of responses from those who do not teach (90.9%), physical education (87.8%), class teachers (83.8%), Arabic language (77.4%), science (74%), English language (72.4%), social science (71.9%), and a moderate proportion of responses came from art (52.5%) *agreed* that adequate subject knowledge is a difficulty that teachers experience; **(b)** a low proportion of responses came from those who do not teach (6.8%), class teachers (10.8%), physical education (12.2%), English language (19.7%), Arabic language (19.8%), social science (21.9%), science (22.2%), and a quite moderate proportion of responses came from art (39.3%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with those who do not teach (2.3%), class teachers (5.4%), physical education (0%), English language (7.9%), Arabic language (2.8%), social science (6.3%), science (3.8%), and art (8.2%).

Item 12 (Rate of change and innovation in the curriculum)

(a) a high proportion of responses from those who do not teach (72.7%), English language (72.4%), social science (67%), physical education (65.9%), science (63.5%), and a moderate proportion of responses came from art (55.7%), Arabic language (77.4%), class teachers (83.8%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience; **(b)** a low proportion of responses

came from physical education (9.8%), English language (15.8%), those who do not teach (18.2%), social science (20.1%), art (23%), science (26.6%), class teachers (29.7%), and Arabic language (31.1%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with those who do not teach (9.1%), science (9.9%), English language (11.8%), social science (12.9%), Arabic language (14.1%), class teachers (16.2%), art (21.3%), and physical education (24.4%).

Item 13 (the amount of change and innovation in the curriculum)

(a) a high proportion of responses from English language (70.7%), those who do not teach (65.9%), class teachers (64.9%), physical education (63.4%), social science (60.3%), and a moderate proportion of responses came from science (56.2%), Arabic language (51.2%), art (45.9%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience; **(b)** a low proportion of responses came from physical education (12.2%), social science (15.9%), English language (17.3%), those who do not teach (20.5%), class teachers (21.6%), science (26.4%), art (29.5%) and Arabic language (33.1%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with English language (12%), class teachers (13.5%), those who do not teach (13.6%), Arabic language (15.7%), science (17.4%), social science (23.8%), physical education (24.4%), and art (24.6%).

Item 19 (Individual differences between students in class)

(a) a high proportion of responses from class teachers (86.5%), physical education (78%), English language (77.6%), Arabic language (76.7%), social science (74.7%), those who do not teach (70.5%), science (68.4%), and a moderate proportion of responses from art (57.5%) *agreed* that individual differences between students in class is a difficulty that teachers experience; **(b)** a low proportion of responses came from class teachers (10.8%), physical education (14.9%), social science (17%), English language (17.1%), Arabic language (19.3%), those who do not teach (22.7%), science (23.6%), and a moderate proportion of responses from art (34.4%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with class teachers (2.7%), Arabic language (4%), English language (5.3%), those who do not teach (6.8%), physical education (7.3%), science (8%), social science (8.2%), and art (8.2%).

Item 20 (Assessment and evaluation of students)

(a) a high proportion of responses from English language (84.2%), Arabic language (71.8%), those who do not teach (69.8%), physical education (68.3%), social science (66.3%), science (66.2%), class teachers (62.2%), and a moderate proportion of responses from art (54.1%) *agreed* that assessment and evaluation of students is a difficulty that teachers experience; (b) a low proportion of responses came English language (14.5%), physical education (14.6%), Arabic language (22.6%), class teachers (24.3%), social science (24.4%), science (25.3%), those who do not teach (25.6%), and quite a moderate proportion of responses from art (34.4%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with English language (1.3%), those who do not teach (4.7%), Arabic language (5.6%), science (8.2%), social science (9.3%), art (11.5%), class teachers (13.5%), and physical education (17.1%).

Item 23 (Class size)

(a) a high proportion of responses from social science (74.7%), English language (73.3%), those who do not teach (72.7%), Arabic language (69.7%), physical education (68.3%), science (67.9%), class teachers (64.9%), and a moderate proportion of responses from art (51.7%) *agreed* that class size is a difficulty that teachers experience; (b) a low proportion of responses came from those who do not teach (13.6%), social science (19.1%), %, English language (22.7%), class teachers (24.3%), Arabic language (25.1%), science (25.8%), physical education (29.3%) and quite a moderate proportion of responses from art (43.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with physical education (2.4%), English language (4%), art (5%), Arabic language (5.1%), social science (6.2%), science (6.3%), class teachers (10.8%), and those who do not teach (13.6%).

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 11 (Adequate subject knowledge)

(a) slightly more secondary education staff (77.4%) than basic education staff (71.4%) *agreed* that adequate subject knowledge is a difficulty that teachers experience; (b) slightly more basic education staff (23.7%) than secondary education staff (18.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (4.6% and 4.5% respectively).

Item 12 (Rate of change and innovation in the curriculum)

(a) slightly more secondary education staff (67.1%) than basic education staff (59.4%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience; (b) there is an even spread of basic education staff and secondary education staff (24.8% and 23.4% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more basic education staff (15.8%) than secondary education staff (9.6%).

Item 13 (the amount of change and innovation in the curriculum)

(a) more secondary education staff (62.7%) than basic education staff (53.2%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience; (b) slightly more basic education staff (26.2%) than secondary education staff (21.6%) *disagreed* with the statement; (c) a quite small proportion of responses were *undecided*, with more basic education staff (20.6%) than secondary education staff (15.7%).

Item 14 (Preparation of teachers during their initial training course)

(a) more secondary education staff (82.4%) than basic education staff (70.8%) *agreed* that preparation of teachers during their initial training course is a difficulty that teachers experience; (b) more basic education staff (23.7%) than secondary education staff (12.7%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (5.4% and 4.9% respectively).

Item 15 (Links between initial training and the curriculum in school)

(a) more secondary education staff (81.7%) than basic education staff (74.2%) *agreed* that links between initial training and the curriculum in school is a difficulty that

teachers experience; **(b)** slightly more basic education staff (17.1%) than secondary education staff (12.8%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more basic education staff (8.7%) than secondary education staff (5.5%).

Item 16 (Teacher-Inspector relationships)

(a) more secondary education staff (76.1%) than basic education staff (66.9%) *agreed* that teacher-inspector relationships are a difficulty that teachers experience; **(b)** more basic education staff (26.6%) than secondary education staff (17.6%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (6.5% and 6.4% respectively).

Item 17 (Teaching techniques)

(a) more secondary education staff (77.4%) than basic education staff (69.6%) *agreed* that teaching technique is a difficulty that teachers experience; **(b)** more basic education staff (25.2%) than secondary education staff (16.2%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (5.2% and 6.4% respectively).

Item 18 (Opportunities for continued professional development)

(a) more secondary education staff (83.4%) than basic education staff (74.4%) *agreed* that opportunities for continued professional development is a difficulty that teachers experience; **(b)** slightly more basic education staff (16.6%) than secondary education staff (10.4%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with slightly more basic education staff (9%) than secondary education staff (6.2%).

Item 22 (Students' standards of achievement/performance)

(a) more secondary education staff (80.8%) than basic education staff (69.7%) *agreed* that students' standards of achievement/performance is a difficulty that teachers experience; **(b)** slightly more basic education staff (18.6%) than secondary education staff (13.4%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more basic education staff (11.7%) than secondary education staff (5.8%).

Item 23 (Class size)

(a) more secondary education staff (77.1%) than basic education staff (61.9%) *agreed* that class size is a difficulty that teachers experience; (b) more basic education staff (30%) than secondary education staff (18.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more basic education staff (8.1%) than secondary education staff (4%).

Item 25 (Discipline in school/classroom)

(a) more secondary education staff (81.6%) than basic education staff (71.5%) *agreed* that discipline in school/classroom is a difficulty that teachers experience; (b) more basic education staff (21.7%) than secondary education staff (15.6%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more basic education staff (6.7%) than secondary education staff (2.8%).

Item 26 (School administration)

(a) more secondary education staff (80%) than basic education staff (71.5%) *agreed* that school administration is a difficulty that teachers experience; (b) more basic education staff (21.6%) than secondary education staff (14.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (6.9% and 6% respectively).

Item 27 (School building/premises)

(a) more secondary education staff (77.9%) than basic education staff (66.6%) *agreed* that school building/premises is a difficulty that teachers experience; (b) more basic education staff (25.9%) than secondary education staff (16%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (7.5% and 6.2% respectively).

Item 28 (Teaching resources/facilities/equipment available in school)

(a) more secondary education staff (76.5%) than basic education staff (64.9%) *agreed* that teaching resources available in school is a difficulty that teachers experience; (b) more basic education staff (24.5%) than secondary education staff (17.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more basic education staff (10.6%) than secondary education staff (6.2%).

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 11 (Adequate subject knowledge)

(a) more of those who do not teach (90.2%) than those with 26 students or over (76.1%) and those with 25 or less (67.2%) *agreed* that adequate subject knowledge is a difficulty that teachers experience; (b) more of those with 25 or less students (28.1%) than those with 26 or over (19.4%) and those who do not teach (7.8%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with 25 or less students, those with 26 or over and those who do not teach (4.7%, 4.5% and 3.9% respectively).

Item 12 (Rate of change and innovation in the curriculum)

(a) more of those who do not teach (76.5%) than those with 26 students or over (64.8%) and those with 25 or less (55.3%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience; (b) more of those with 25 or less students (27.8%) than those with 26 or over (23.4%) and those who do not teach (15.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 25 or less students (16.9%) than those with 26 or over (11.8%) and those who do not teach (7.8%).

Item 13 (the amount of change and innovation in the curriculum)

(a) more of those who do not teach (66.7%) than those with 26 students or over (59.5%) and those with 25 or less (51.2%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience; (b) more of those with 25 or less students (27.2%) than those with 26 or over (23.2%) and those who do not teach (17.6%) *disagreed* with the statement; (c) a quite small proportion of responses were *undecided*, with slightly more of those with 25 or less students (21.7%) than those with 26 or over (17.3%) and those who do not teach (15.7%).

Item 14 (Preparation of teachers during their initial training course)

(a) more of those who do not teach (88.2%) than those with 26 students or over (79.9%) and those with 25 or less (64.3%) *agreed* that preparation of teachers during

their initial training course is a difficulty that teachers experience; **(b)** more of those with 25 or less students (29.8%) than those with 26 or over (15.2%) and those who do not teach (5.9%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with a fairly even spread of those with 25 or less students, those with 26 or over and those who do not teach (5.9%, 4.8% and 5.9% respectively).

Item 15 (Links between initial training and the curriculum in school)

(a) more of those who do not teach (88%) than those with 26 students or over (80.4%) and those with 25 or less (68.4%) *agreed* that links between initial training and the curriculum in school is a difficulty that teachers experience; **(b)** more of those with 25 or less students (21.2%) than those with 26 or over (13.3%) and those who do not teach (8%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with slightly more of those with 25 or less students (10.4%) than those with 26 or over (6.3%) and those who do not teach (4%).

Item 16 (Teacher-Inspector relationships)

(a) more of those with 26 students or over (76%) and those who do not teach (72.5%) than those with 25 or less (58%) *agreed* that teacher-inspector relationships are a difficulty that teachers experience; **(b)** more of those with 25 or less students (34.9%) than those with 26 or over (18.3%) and those who do not teach (13.7%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with more of those who do not teach (13.7%) than those with 25 or less (7.1%) and those with 26 or over (5.7%).

Item 17 (Teaching techniques)

(a) more of those who do not teach (78.4%) than those with 26 students or over (76.5%) and those with 25 or less (63.5%) *agreed* that teaching technique is a difficulty that teachers experience; **(b)** more of those with 25 or less students (29.4%) than those with 26 or over (18.2%) and those who do not teach (15.7%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with a fairly even spread of those with 25 or less students, those with 26 or over and those who do not teach (7.1%, 5.3% and 5.9% respectively).

Item 18 (Opportunities for continued professional development)

(a) more of those who do not teach (90.2%) than those with 26 students or over (80.5%) and those with 25 or less (71.4%) *agreed* that opportunities for continued professional development is a difficulty that teachers experience; (b) more of those with 25 or less students (19.6%) than those with 26 or over (12.2%) and those who do not teach (3.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those with 25 or less students (9%) than those with 26 or over (7.3%) and those who do not teach (5.9%).

Item 23 (Class size)

(a) more of those who do not teach (76.5%) than those with 26 students or over (71.8%) and those with 25 or less (60.4%) *agreed* that class size is a difficulty that teachers experience; (b) more of those with 25 or less students (29.8%) than those with 26 or over (24%) and those who do not teach (9.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who do not teach (13.7%) than those with 25 or less students (9.8%) and those with 26 or over (4.2%).

Item 24 (Pupil-Pupil relationships)

(a) more of those who do not teach (66.7%) and those with 26 students or over (66.4%) than those with 25 or less (55.2%) *agreed* that pupil-pupil relationships are a difficulty that teachers experience; (b) more of those with 25 or less students (32.9%) than those who do not teach (19.6%) and those with 26 or over (17.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those with 26 or over (16%) than those who do not teach (13.7%) and those with 25 or less (11.9%).

Item 25 (Discipline in school/classroom)

(a) more of those who do not teach (82.4%) than those with 26 students or over (78.6%) and those with 25 or less (68.8%) *agreed* that discipline in school/classroom is a difficulty that teachers experience; (b) more of those with 25 or less students (28.5%) than those with 26 or over (15.8%) and those who do not teach (11.8%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*,

with an even spread of those with 25 or less students, those with 26 or over and those who do not teach (2.8%, 5.6% and 5.9% respectively).

Item 26 (School administration)

(a) more of those who do not teach (82.4%) than those with 26 students or over (76.8%) and those with 25 or less (70.6%) *agreed* that school administration is a difficulty that teachers experience; (b) more of those with 25 or less students (23.5%) than those with 26 or over (16.2%) and those who do not teach (15.2%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with 26 or over students (7%) than those with 25 or less (5.9%) and those who do not teach (2%).

Main level of class (es) taught in basic education (MLCTBE)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by MLCTBE the following results emerge (percentages indicate the proportion of the total number of MLCTBE categories):

Item 11 (Adequate subject knowledge)

(a) more of those who do not teach (89.7%) than those who teach class (es) first to sixth (78%), seven to ninth (70.6%) and whose teaching is equally distributed (57.6%) *agreed* that adequate subject knowledge is a difficulty that teachers experience; (b) more of those whose teaching groups are equally distributed (36.4%) than those who teach seven to ninth (25.7%), first to sixth (15.4%) and those who do not teach (5.1%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those who teach class (es) first to sixth, seven to ninth, equally distributed and those who do not teach (6.6%, 3.7%, 6.1 and 5.1% respectively).

Item 12 (Rate of change and innovation in the curriculum)

(a) more of those who do not teach (79.5%) than seven to ninth (60.3%), those whose teaching is equally distributed (54.5%) and first to sixth (50.5%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience; (b) more of those who teach first to sixth class (es) (33%) than those whose teaching groups are equally distributed (24.2%), those who teach seven to ninth (23.5%), and those who do not teach (15.4%) *disagreed* with the statement; (c) a quite small

proportion of responses were *undecided*, with more of those whose teaching are equally distributed (21.2%) than those with first to sixth (16.5%), seven to ninth (16.1%) and those who do not teach (5.1%).

Item 17 (Teaching techniques)

(a) more of those who do not teach (84.6%) than those who teach class (es) first to sixth (77.3%), seven to ninth (68.9%) and whose teaching is equally distributed (57.6%) *agreed* that teaching technique is a difficulty that teachers experience; (b) more of those whose teaching groups are equally distributed (36.4%) than those who teach seven to ninth (25.8%), first to sixth (19.3%) and those who do not teach (7.7%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with quite an even spread of those who teach class (es) first to sixth, seven to ninth, equally distributed and those who do not teach (3.4%, 5.3%, 6.1 and 7.7% respectively).

Item 23 (Class size)

(a) more of those who do not teach (71.8%) than those who teach class (es) first to sixth (68.1%), seven to ninth (62.1%) and whose teaching is equally distributed (34.4%) *agreed* that class size is a difficulty that teachers experience; (b) more of those whose teaching groups are equally distributed (50%) than those who teach seven to ninth (31.2%), first to sixth (24.2%) and those who do not teach (12.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those whose teaching are equally distributed (15.6%) and those who do not teach (15.4%) than those who teach class (es) first to sixth (7.7%) and seven to ninth (6.7%).

Item 25 (Discipline in school/classroom)

(a) more of those who do not teach (84.6%) than those who teach class (es) first to sixth (75.8%), seven to ninth (71.7%) and whose teaching is equally distributed (54.5%) *agreed* that discipline in school/classroom is a difficulty that teachers experience; (b) more of those whose teaching groups are equally distributed (33.3%) than those who teach seven to ninth (21.9%), first to sixth (17.6%) and those who do not teach (7.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with those whose teaching groups are equally distributed (12.1%) than the remaining categories which with a fairly spread of those who teach class (es)

first to sixth, seven to ninth, and those who do not teach (6.6%, 6.4% and 7.7% respectively).

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 12 (Rate of change and innovation in the curriculum)

(a) more of those who work in an urban area (69.2%) than remote (55.9%) and rural (49.2%) *agreed* that the rate of change and innovation in the curriculum is a difficulty that teachers experience; (b) more of those who work in a remote area (39.7%) than rural (28.6%) and urban (20.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a rural area (22.2%) than urban (10%) and remote(4.4%).

Item 13 (the amount of change and innovation in the curriculum)

(a) more of those who work in an urban area (63.2%) than remote (55.2%) and rural (44.3%) *agreed* that the amount of change and innovation in the curriculum is a difficulty that teachers experience; (b) more of those who work in a remote area (32.8%) than rural (30.7%) and urban (20.5%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a rural area (25%) than urban (16.3%) and remote(11.9%).

Item 14 (Preparation of teachers during their initial training course)

(a) more of those who work in an urban area (81.1%) than remote (75%) and rural (65%) *agreed* that preparation of teachers during their initial training course is a difficulty that teachers experience; (b) more of those who work in a rural area (28.5%) than remote (19.1%) and urban (6.5%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those who work in rural, urban and remote area (4.6%, 6.5% and 5.9% respectively).

Item 15 (Links between initial training and the curriculum in school)

(a) more of those who work in an urban area (81%) than rural (73%) and remote (65.7%) *agreed* that links between initial training and the curriculum in school is a

difficulty that teachers experience; **(b)** more of those who work in a remote area (25.4%) than rural (18.6%) and urban (12.4%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with quite an even spread of those who work in rural, urban and remote areas (6.6%, 8.4% and 9% respectively).

Item 16 (Teacher-Inspector relationships)

(a) more of those who work in an urban area (74.9%) than remote (68.1%) and rural (63%) *agreed* that that teacher-inspector relationships are a difficulty that teachers experience; **(b)** more of those who work in a rural area (29.8%) than remote (24.6%) and urban (19%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with a fairly even spread of those who work in rural, urban and remote areas (6.1%, 7.2% and 7.2% respectively).

Item 17 (Teaching techniques)

(a) more of those who work in an urban area (77.2%) than remote (70.1%) and rural (64.6%) *agreed* with the that teaching technique is a difficulty that teachers experience; **(b)** more of those who work in a rural area (28.1%) than remote (26.9%) and urban (17.4%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of those who work in a rural area (7.2%) than urban (5.5%) and remote(3%).

Item 18 (Opportunities for continued professional development)

(a) more of those who work in an urban area (82.7%) than rural (71.8%) and remote (67.6%) *agreed* that opportunities for continued professional development is a difficulty that teachers experience; **(b)** more of those who work in a remote area (23.5%) than rural (19.2%) and urban (10.5%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with a fairly even spread of those who work in rural, urban and remote areas (6.8%, 9% and 8.8% respectively).

Item 20 (Assessment and evaluation of students)

(a) more of those who work in an urban area (71%) than remote (66.2%) and rural (61.1%) *agreed* that assessment and evaluation of students is a difficulty that teachers experience; **(b)** more of those who work in a rural area (27.5%) than remote (23.5%) and urban (22.3%) *disagreed* with the statement; **(c)** a small proportion of responses

were *undecided*, with more of those who work in a rural area (11.3%) than remote (10.3%) and urban(6.7%).

Item 22 (Students' standards of achievement/performance)

(a) more of those who work in an urban area (80.1%) than remote (68.1%) and rural (63.8%) *agreed* that students' standards of achievement/performance is a difficulty that teachers experience; (b) more of those who work in a remote area (23.2%) and rural (22.3%) than urban (13%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a rural area (14%) than remote (8.7%) and urban (6.9%).

Item 23 (Class size)

(a) more of those who work in an urban area (73.3%) than remote (61.8%) and rural (61.2%) *agreed* that class size is a difficulty that teachers experience; (b) more of those who work in a rural area (31.6%) than remote (26.5%) and urban (21.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (11.8%) than rural (7.2%) and urban (5%).

Item 24 (Pupil-Pupil relationships)

(a) more of those who work in an urban area (66.7%) than rural (58.1%) and remote (56.5%) *agreed* that pupil-pupil relationships are a difficulty that teachers experience; (b) more of those who work in a rural area (27.5%) than remote (24.6%) and urban (18.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (18.7%) than urban (14.6%) and rural (14.3%).

Item 25 (Discipline in school/classroom)

(a) more of those who work in an urban area (80.6%) than rural (68.9%) and remote (64.7%) *agreed* that discipline in school/classroom is a difficulty that teachers experience; (b) more of those who work in a rural area (27.7%) and remote (26.5%) than urban (14.4%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those who work in a remote area (8.8%) than urban (5%) and rural (3.4%).

Item 26 (School administration)

(a) more of those who work in an urban area (78.4%) than rural (70.6%) and remote (66.7%) *agreed* that school administration is a difficulty that teachers experience; (b) more of those who work in a rural area (23%) and remote (21.7%) than urban (15.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (11.6%) than rural (6.4%) and urban (5.9%).

Item 27 (School building/premises)

(a) more of those who work in an urban area (74.7%) than rural (66.7%) and remote (66.2%) *agreed* that school building/premises is a difficulty that teachers experience; (b) more of those who work in a rural area (25.4%) and remote (25%) than urban (19%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of those who work in rural, urban and remote (6.2%, 8% and 8.8% respectively).

APPENDIX

4

CROSSTABULATED BIOGRAPHICAL DETAILS BY ACTIVITIES WHICH TEACHERS ARE USING NOW TO IMPROVE THEIR PROFESSIONAL EFFECTIVENESS

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning activities which teachers are using now to improve their professional effectiveness.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 32 (Undertaking personal reading and study)

(a) more females (38.1%) than males (28.6%) reported that they were 'undertaking personal reading and study' *a very great deal* to improve their professional effectiveness; (b) slightly more males (41.8%) than females (38.1%) reported that they were 'undertaking personal reading and study' *quite a lot*; (c) more males (25.8%) than females (18.8%) reported that they were 'undertaking personal reading and study' *a little*; (d) a very small proportion of responses with a fairly even spread of males and females (3.3% and 4.1% respectively) reported that they were 'undertaking personal reading and study' *very little*; (e) a very small proportion of responses with a fairly even spread of males and females (0.5% and 0.8% respectively) reported that they were 'undertaking personal reading and study' *not at all*.

Item 33 (Using modern techniques such as computer, video and media programmes)

(a) more males (12.4%) than females (6.7%) reported that they were 'using modern techniques such as computer, video and media programmes' *a very great deal* to improve their professional effectiveness; (b) there is an even spread of males and females (10.1% and 11.6% respectively) reported that they were 'using modern techniques such as computer, video and media programmes' *quite a lot*; (c) there is an even spread of males and females (15% and 16% respectively) reported that they were 'using modern techniques such as computer, video and media programmes' *a little*; (d) more of males (19.6%) than females (13.7%) reported that they were 'using modern techniques such as computer, video and media programmes' *very little*; (e) more of females (52%) than males (42.9%) reported that they were 'using modern techniques such as computer, video and media programmes' *not at all*.

Item 34 (Reading specialised textbooks)

(a) more females (38%) than males (31.4%) reported that they were 'reading specialised textbooks' *a very great deal* to improve their professional effectiveness; (b) slightly more males (38.8%) than females (35.4%) reported that they were 'reading specialised textbooks' *quite a lot*; (c) there is an even spread of males and females (18.4% and 19.9% respectively) reported that they were 'reading specialised textbooks' *a little*; (d) a small proportion of responses with slightly more of males (8.2%) than females (5.1%) reported that they were 'reading specialised textbooks' *very little*; (e) a very small proportion of responses with a fairly even spread of males and females (3.3% and 1.6% respectively) reported that they were 'reading specialised textbooks' *not at all*.

Item 35 (Attending courses)

(a) slightly more males (12.8%) than females (10.5%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; (b) more males (22.5%) than females (12.4%) reported that they were 'attending courses' *quite a lot*; (c) slightly more males (26.3%) than females (23.1%) reported that they were 'attending courses' *a little*; (d) more of males (18.4%) than females (14.4%) reported that they were 'attending courses' *very little*; (e) more of females (39.6%) than males (19.9%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) a small proportion of responses, with more males (7.4%) than females (4.8%), reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; (b) slightly more males (11.5%) than females (8.8%) reported that they were 'attending workshops and seminars' *quite a lot*; (c) more males (21.8%) than females (16.9%) reported that they were 'attending workshops and seminars' *a little*; (d) there is an even spread of males and females (17.9% and 16.4% respectively) reported that they were 'attending workshops and seminars' *very little*; (e) more of females (53.1%) than males (41.3%) reported that they were 'attending workshops and seminars' *not at all*.

Item 38 (Teaching a different groups of students)

(a) more females (21.8%) than males (17.1%) reported that they were 'teaching a different groups of students' *a very great deal* to improve their professional effectiveness; (b) more females (36.1%) than males (31.5%) reported that they were 'teaching a different groups of students' *quite a lot*; (c) more males (21.4%) than females (18.4%) reported that they were 'teaching a different groups of students' *a little*; (d) a small proportion of responses with a fairly even spread of males and females (3.3% and 4.1% respectively) reported that they were 'teaching a different groups of students' *very little*; (e) more males (12.1%) than females (6.6%) reported that they were 'teaching a different groups of students' *not at all*.

Item 40 (Visiting other schools)

(a) more males (13.6%) than females (7.9%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; (b) more males (24.4%) than females (8.5%) reported that they were 'visiting other schools' *quite a lot*; (c) more males (29.7%) than females (24.3%) reported that they were 'visiting other schools' *a little*; (d) there is an even spread of males and females (15.9% and 16.7% respectively) reported that they were 'visiting other schools' *very little*; (e) more females (42.6%) than males (16.4%) reported that they were 'visiting other schools' *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more males (12.6%) than females (8.8%) reported that they were 'exchanging information with other institutions' *a very great deal* to improve their professional effectiveness; (b) more males (20.5%) than females (12.9%) reported that they were 'exchanging information with other institutions' *quite a lot*; (c) more males (27.4%) than females (23.4%) reported that they were 'exchanging information with other institutions' *a little*; (d) there is an even spread of males and females (17.2% and 16.5% respectively) reported that they were 'exchanging information with other institutions' *very little*; (e) more females (38.4%) than males (22.3%) reported that they were 'exchanging information with other institutions' *not at all*.

Item 42 (Following up the advice from inspectors)

(a) more females (49.2%) than males (39.9%) reported that they were 'following up the advice from inspectors' *a very great deal* to improve their professional effectiveness; (b) more males (39.7%) than females (34.3%) reported that they were 'following up the advice from inspectors' *quite a lot*; (c) more males (14.7%) than females (9.5%) reported that they were 'following up the advice from inspectors' *a little*; (d) a very small proportion of responses with a fairly even spread of males and females (3.4% and 4.3% respectively) reported that they were 'following up the advice from inspectors' *very little*; (e) a very small proportion of responses with a fairly even spread of males and females (2.3% and 2.7% respectively) reported that they were 'following up the advice from inspectors' *not at all*.

Item 43 (Being involved in school discipline and decision-making)

(a) more males (34.4%) than females (27.7%) reported that they were 'being involved in school discipline and decision-making' *a very great deal* to improve their professional effectiveness; (b) there is an even spread of males and females (32.9% and 32.6% respectively) reported that they were 'being involved in school discipline and decision-making' *quite a lot*; (c) more males (23.2%) than females (19.9%) reported that they were 'being involved in school discipline and decision-making' *a little*; (d) a small proportion of responses, with more females (10.6%) than males (5.1%) reported that they were 'being involved in school discipline and decision-making' *very little*; (e) a small proportion of responses, with more females (9.2%) than

males (4.3%) reported that they were 'being involved in school discipline and decision-making' *not at all*.

Age group

When one reviews the specifics of the crosstabulated distributions for these rating scale items by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 35 (Attending courses)

(a) more of those aged 41 years and above (18.5%) than 40 years or less (10.4%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; (b) more of those aged 41 years and above (26.1%) than 40 years or less (14.7%) reported that they were 'attending courses' *quite a lot*; (c) more of those aged 41 years and above (30.3%) than 40 years or less (23.4%) reported that they were 'attending courses' *a little*; (d) there is an even spread of those aged 40 years or less and 41 years and above (15.8% and 16.8% respectively) reported that they were 'attending courses' *very little*; (e) more of those aged 40 years or less (35.6%) than 41 years and above (8.4%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) more of those aged 41 years and above (13.4%) than 40 years or less (4.7%) reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; (b) there is an even spread of those aged 40 years or less and 41 years and above (9.8% and 9.2% respectively) reported that they were 'attending workshops and seminars' *quite a lot*; (c) slightly more of those aged 40 years or less (18.9%) than 41 years and above (16%) than reported that they were 'attending workshops and seminars' *a little*; (d) more of those aged 41 years and above (20.2%) than 40 years or less (16.6%) reported that they were 'attending workshops and seminars' *very little*; (e) more of those aged 40 years or less (49.9%) than 41 years and above (41.2%) reported that they were 'attending workshops and seminars' *not at all*.

Item 40 (Visiting other schools)

(a) more of those aged 41 years and above (16%) than 40 years or less (9.2%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; (b) more of those aged 41 years and above (21%) than 40 years or less (13.3%) reported that they were 'visiting other schools' *quite a lot*; (c) more of those aged 41 years and above (31.1%) than 40 years or less (25.5%) reported that they were 'visiting other schools' *a little*; (d) slightly more of those aged 41 years and above (18.5%) than 40 years or less (16.2% respectively) reported that they were 'visiting other schools' *very little*; (e) more of those aged 40 years or less (35.8%) than 41 years and above (13.4%) reported that they were 'visiting other schools' *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more of those aged 41 years and above (12.7%) than 40 years or less (9.8%) reported that they were 'exchanging information with other institutions' *a very great deal* to improve their professional effectiveness; (b) more of those aged 41 years and above (25.4%) than 40 years or less (14.4%) reported that they were 'exchanging information with other institutions' *quite a lot*; (c) more of those aged 41 years and above (30.5%) than 40 years or less (24.1%) reported that they were 'exchanging information with other institutions' *a little*; (d) there is an even spread of those aged 40 years or less and 41 years and above (16.9% and 15.3% respectively) reported that they were 'exchanging information with other institutions' *very little*; (e) more of those aged 40 years or less (34.8%) than 41 years and above (16.1%) reported that they were 'exchanging information with other institutions' *not at all*.

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 33 (Using modern techniques such as computer, video and media programmes)

(a) more non school staff (11.8%) than school staff (8.3%) reported that they were 'using modern techniques such as computer, video and media programmes' *a very great deal* to improve their professional effectiveness; (b) more non school staff (15%) than school staff (10.6%) reported that they were 'using modern techniques

such as computer, video and media programmes' *quite a lot*; (c) more non school staff (18.2%) than school staff (15.4%) reported that they were 'using modern techniques such as computer, video and media programmes' *a little*; (d) more non school staff (19.1%) than school staff (15.5%) reported that they were 'using modern techniques such as computer, video and media programmes' *very little*; (e) more school staff (50.3%) than non school staff (35.5%) reported that they were 'using modern techniques such as computer, video and media programmes' *not at all*.

Item 35 (Attending courses)

(a) more non school staff (16.2%) than school staff (10.7%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; (b) more non school staff (21.6%) than school staff (15.4%) reported that they were 'attending courses' *quite a lot*; (c) more non school staff (29.2%) than school staff (23.6%) reported that they were 'attending courses' *a little*; (d) more non school staff (18.9%) than school staff (15.5%) reported that they were 'attending courses' *very little*; (e) more school staff (34.8%) than non school staff (13.5%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) more non school staff (11.7%) than school staff (5.1%) reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; (b) more non school staff (13.5%) than school staff (9.3%) reported that they were 'attending workshops and seminars' *quite a lot*; (c) more non school staff (21.6%) than school staff (18.3%) reported that they were 'attending workshops and seminars' *a little*; (d) more non school staff (22.5%) than school staff (16.3%) reported that they were 'attending workshops and seminars' *very little*; (e) more school staff (51%) than non school staff (30.6%) reported that they were 'attending workshops and seminars' *not at all*.

Item 40 (Visiting other schools)

(a) more non school staff (18.9%) than school staff (8.9%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; (b) more non school staff (24.3%) than school staff (13%) reported that they were 'visiting other schools' *quite a lot*; (c) there is an even spread of school staff and non

school staff (26.3% and 26.1% respectively) reported that they were 'visiting other schools' *a little*; **(d)** slightly more school staff (16.6%) than non school staff (14.4%) reported that they were 'visiting other schools' *very little*; **(e)** more school staff (35.2%) than non school staff (16.2%) reported that they were 'visiting other schools' *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more non school staff (13.6%) than school staff (9.7%) reported that they were 'exchanging information with other institutions' *a very great deal* to improve their professional effectiveness; **(b)** more non school staff (23.6%) than school staff (14.7%) reported that they were 'exchanging information with other institutions' *quite a lot*; **(c)** more non school staff (31.8%) than school staff (24.1%) reported that they were 'exchanging information with other institutions' *a little*; **(d)** more school staff (17.3%) than non school staff (11.8%) reported that they were 'exchanging information with other institutions' *very little*; **(e)** more school staff (34.2%) than non school staff (19.1%) reported that they were 'exchanging information with other institutions' *not at all*.

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 35 (Attending courses)

(a) more of those with 21 years and above experience (18.3%) than 20 years or less (10.4%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; **(b)** more of those with 21 years and above experience (25%) than 20 years or less (4.9%) reported that they were 'attending courses' *quite a lot*; **(c)** more of those with 21 years and above experience (30.8%) than 20 years or less (23.3%) reported that they were 'attending courses' *a little*; **(d)** there is a fairly even spread of those with 20 years or less experience and 21 years and above (15.9% and 15.8% respectively) reported that they were 'attending courses' *very little*; **(e)** more of those with 20 years or less experience (35.4%) than 21 years and above (10%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) more of those with 21 years and above experience (13.3%) than 20 years or less (4.8%) reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; (b) there is a fairly even spread of those with 20 years or less experience and 21 years and above (9.8% and 9.2% respectively) reported that they were 'attending workshops and seminars' *quite a lot*; (c) more of those with 20 years or less experience (18.9%) than 21 years and above (15.8%) reported that they were 'attending workshops and seminars' *a little*; (d) more of those with 21 years and above experience (20%) than 20 years or less (16.6%) reported that they were 'attending workshops and seminars' *very little*; (e) more of those with 20 years or less experience (49.8%) than 21 years and above (41.7%) reported that they were 'attending workshops and seminars' *not at all*.

Item 37 (Using modern methods of teaching)

(a) more of those with 21 years and above experience (26.1%) than 20 years or less (21.3%) reported that they were 'using modern methods of teaching' *a very great deal* to improve their professional effectiveness; (b) more of those with 21 years and above experience (37%) than 20 years or less (30.9%) reported that they were 'using modern methods of teaching' *quite a lot*; (c) more of those with 20 years or less experience (26.5%) than 21 years and above (21.8%) reported that they were 'using modern methods of teaching' *a little*; (d) more of those with 20 years or less experience (10%) than 21 years and above (5.9%) reported that they were 'using modern methods of teaching' *very little*; (e) more of those with 20 years or less experience (11.3%) than 21 years and above (9.2%) reported that they were 'using modern methods of teaching' *not at all*.

Item 40 (Visiting other schools)

(a) more of those with 21 years and above experience (15%) than 20 years or less (9.2%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; (b) more of those with 21 years and above experience (21.7%) than 20 years or less (13.2%) reported that they were 'visiting other schools' *quite a lot*; (c) more of those with 21 years and above experience (32.5%) than 20 years or less (25.5%) reported that they were 'visiting other schools' *a little*; (d) there is a fairly even spread of those with 20 years or less experience and 21 years and

above (16.5% and 15.8% respectively) reported that they were 'visiting other schools' *very little*; **(e)** more of those with 20 years or less experience (35.6%) than 21 years and above (15%) reported that they were 'visiting other schools' *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more of those with 21 years and above experience (14.3%) than 20 years or less (9.5%) reported that they were 'exchanging information with other institutions' *a very great deal* to improve their professional effectiveness; **(b)** more of those with 21 years and above experience (22.7%) than 20 years or less (14.7%) reported that they were 'exchanging information with other institutions' *quite a lot*; **(c)** more of those with 21 years and above experience (29.4%) than 20 years or less (24.3%) reported that they were 'exchanging information with other institutions' *a little*; **(d)** there is an equal spread (16.8%) of those with 20 years or less experience and 21 years and above reported that they were 'exchanging information with other institutions' *very little*; **(e)** more of those with 20 years or less experience (34.7%) than 21 years and above (16.8%) reported that they were 'exchanging information with other institutions' *not at all*.

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 32 (Undertaking personal reading and study)

(a) more of those with a degree qualification (39.8%) than diploma (29.8%) reported that they were 'undertaking personal reading and study' *a very great deal* to improve their professional effectiveness; **(b)** more of those with a diploma qualification (41.3%) than degree (37.6%) reported that they were 'undertaking personal reading and study' *quite a lot*; **(c)** more of those with a diploma qualification (23%) than degree (19.6%) reported that they were 'undertaking personal reading and study' *a little*; **(d)** a very small proportion of responses, with more of those with a diploma (5.2%) than degree qualification (2.2%) reported that they were 'undertaking personal reading and study' *very little*; **(e)** a very small proportion of responses, with an equal

spread (0.7%) of those with a diploma and degree qualification reported that they were 'undertaking personal reading and study' *not at all* .

Item 33 (Using modern techniques such as computer, video and media programmes)

(a) slightly more of those with a diploma qualification (9.6%) than degree (7.8%) reported that they were 'using modern techniques such as computer, video and media programmes' *a very great deal* to improve their professional effectiveness; (b) there is an even spread of those with a diploma and degree qualification (11.4% and 10.6% respectively) reported that they were 'using modern techniques such as computer, video and media programmes' *quite a lot*; (c) more of those with a diploma qualification (18.4%) than degree (12.8%) reported that they were 'using modern techniques such as computer, video and media programmes' *a little*; (d) there is an even spread of those with a diploma and degree qualification (15.9% and 15.6% respectively) reported that they were 'using modern techniques such as computer, video and media programmes' *very little*; (e) more of those with a degree qualification (53.1%) than diploma (44.7%) reported that they were 'using modern techniques such as computer, video and media programmes' *not at all* .

Item 34 (Reading specialised textbooks)

(a) more of those with a degree qualification (43.1%) than diploma (28.6%) reported that they were 'reading specialised textbooks' *a very great deal* to improve their professional effectiveness; (b) there is an even spread of those with a diploma and degree qualification (36.9% and 36.1% respectively) reported that they were 'reading specialised textbooks' *quite a lot*; (c) more of those with a diploma qualification (23.6%) than degree (15.2%) reported that they were 'reading specialised textbooks' *a little*; (d) a small proportion of responses, with more of those with a diploma (8.3%) than degree qualification (3.9%) reported that they were 'reading specialised textbooks' *very little*; (e) a very small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (2.7% and 1.7% respectively) reported that they were 'reading specialised textbooks' *not at all* .

Item 35 (Attending courses)

(a) more of those with a diploma qualification (14.8%) than degree (7.6%) reported that they were 'attending courses' *a very great deal* to improve their professional

effectiveness; **(b)** more of those with a diploma qualification (24.5%) than degree (7.4%) reported that they were 'attending courses' *quite a lot*; **(c)** more of those with a diploma qualification (29%) than degree (19.3%) reported that they were 'attending courses' *a little*; **(d)** more of those with a diploma (17%) than degree qualification (14.6%) reported that they were 'attending courses' *very little*; **(e)** more of those with a degree qualification (48.7%) than diploma (17.1%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) a small proportion of responses, with an equal spread (5.8%) of those with a diploma and degree qualification reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; **(b)** more of those with a diploma qualification (11.9%) than degree (7.4%) reported that they were 'attending workshops and seminars' *quite a lot*; **(c)** more of those with a diploma qualification (20.5%) than degree (16.5%) reported that they were 'attending workshops and seminars' *a little*; **(d)** there is an even spread of those with a diploma and degree qualification (17.3% and 16.7% respectively) reported that they were 'attending workshops and seminars' *very little*; **(e)** more of those with a degree qualification (53.5%) than diploma (44.3%) reported that they were 'attending workshops and seminars' *not at all*.

Item 37 (Using modern methods of teaching)

(a) there is an even spread of those with a diploma and degree qualification (22.4% and 21.1% respectively) reported that they were 'using modern methods of teaching' *a very great deal* to improve their professional effectiveness; **(b)** more of those with a diploma qualification (34.7%) than degree (28.7%) reported that they were 'using modern methods of teaching' *quite a lot*; **(c)** there is a fairly even spread of those with a diploma and degree qualification (25.8% and 25.9% respectively) reported that they were 'using modern methods of teaching' *a little*; **(d)** more of those with a degree (10.9%) than diploma qualification (8.3%) reported that they were 'using modern methods of teaching' *very little*; **(e)** more of those with a degree (13.3%) than diploma qualification (8.8%) reported that they were 'using modern methods of teaching' *not at all*.

Item 40 (Visiting other schools)

(a) more of those with a degree qualification (11.2%) than diploma (8.5%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; (b) more of those with a diploma qualification (18%) than degree (10.2%) reported that they were 'visiting other schools' *quite a lot*; (c) there is a fairly even spread of those with a diploma and degree qualification (26.7% and 25.8% respectively) reported that they were 'visiting other schools' *a little*; (d) there is a fairly even spread of those with a diploma and degree qualification (16.4% and 16.3% respectively) reported that they were 'visiting other schools' *very little*; (e) more of those with a degree qualification (39.1%) than diploma (27.7%) reported that they were 'visiting other schools' *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more of those with a diploma qualification (11.9%) than degree (8.3%) reported that they were 'exchanging information with other institutions' *a very great deal* to improve their professional effectiveness; (b) more of those with a diploma qualification (18.2%) than degree (12.8%) reported that they were 'exchanging information with other institutions' *quite a lot*; (c) there is an even spread of those with a diploma and degree qualification (25.7% and 24.1% respectively) reported that they were 'exchanging information with other institutions' *a little*; (d) there is an even spread of those with a diploma and degree qualification (16% and 17.6% respectively) reported that they were 'exchanging information with other institutions' *very little*; (e) more of those with a degree qualification (37.1%) than diploma (28.2%) reported that they were 'exchanging information with other institutions' *not at all*.

Item 42 (Following up the advice from inspectors)

(a) more of those with a diploma qualification (49.6%) than degree (42.4%) reported that they were 'following up the advice from inspectors' *a very great deal* to improve their professional effectiveness; (b) there is an even spread of those with a diploma and degree qualification (36.6% and 35.6% respectively) reported that they were 'following up the advice from inspectors' *quite a lot*; (c) slightly more of those with a degree qualification (12.5%) than diploma (10.1%) reported that they were 'following up the advice from inspectors' *a little*; (d) a very small proportion of responses, with more of those with a degree (5.8%) than diploma qualification (2.2%) reported that

they were 'following up the advice from inspectors' *very little*; **(e)** a very small proportion of responses, with more of those with a degree (3.7%) than diploma qualification (1.4%) reported that they were 'following up the advice from inspectors' *not at all*.

Item 43 (Being involved in school discipline and decision-making)

(a) more of those with a diploma qualification (34.8%) than degree (25.4%) reported that they were 'being involved in school discipline and decision-making' *a very great deal* to improve their professional effectiveness; **(b)** more of those with a diploma qualification (34.6%) than degree (30.7%) reported that they were 'being involved in school discipline and decision-making' *quite a lot*; **(c)** slightly more of those with a degree qualification (22.2%) than diploma (20.1%) reported that they were 'being involved in school discipline and decision-making' *a little*; **(d)** a small proportion of responses, with more of those with a degree (10.9%) than diploma qualification (6.3%) reported that they were 'being involved in school discipline and decision-making' *very little*; **(e)** a small proportion of responses, with more of those with a degree (10.7%) than diploma qualification (4.1%) reported that they were 'being involved in school discipline and decision-making' *not at all*.

Main subject

When one reviews the specifics of the crosstabulated distributions for these rating scale items by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 32 (Undertaking personal reading and study)

(a) more Arabic language teachers (50.8%) than science (34%), class teachers (32.4%), social science (30.9%), physical education (29.3%), English language (27.4%), those who do not teach (25%), and art (19.7%) reported that they were 'undertaking personal reading and study' *a very great deal* to improve their professional effectiveness; **(b)** more of those who do not teach (54.5%) than physical education teachers (46.3%), English language (43.4%), science (42.2%), social science (41.2%), Arabic language (32.2%), art (31.1%), and class teachers (27%) reported that they were 'undertaking personal reading and study' *quite a lot*; **(c)** more art teachers (44.3%) than class teachers (29.7%), social science (23.2%), English

language (22.4%), physical education (22%), science (19.5%), those who do not teach (15.9%), and Arabic language (14.7%) reported that they were 'undertaking personal reading and study' *a little*; **(d)** a small proportion of responses, with more of class teachers (10.8%) than English language (6.6%), art (4.9%), those who do not teach (4.5%), social science (4.1%), science (3.6%), Arabic language (1.7%), and physical education (0%) reported that they were 'undertaking personal reading and study' *very little*; **(e)** a very small proportion of responses, with more of physical education (2.4%) than science (0.8%), Arabic language (0.6%), social science (0.5%), those who do not teach (0%), class teachers (0%), English language (0%), and art (0%) reported that they were 'undertaking personal reading and study' *not at all*.

Item 33 (Using modern techniques such as computer, video and media programmes)

(a) more physical education teachers (29.3%) than class teachers (16.2%), art (13.1%), those who do not teach (11.4%), Arabic language (7.5%), science (6.9%), English language (5.3%) and social science (4.6%) reported that they were 'using modern techniques such as computer, video and media programmes' *a very great deal* to improve their professional effectiveness; **(b)** more Arabic language teachers (16.1%) than class teachers (13.5%), physical education teachers (12.2%), those who do not teach (11.4%), art (9.8%), English language (9.2%), science (9.1%) and social science (8.2%) reported that they were 'using modern techniques such as computer, video and media programmes' *quite a lot*; **(c)** more of those who do not teach (27.3%) than art teachers (19.7%), science (17.4%), social science (15.5%), English language (13.2%), Arabic language (10.9%), class teachers (10.8%) and physical education (7.3%) reported that they were 'using modern techniques such as computer, video and media programmes' *a little*; **(d)** more of those who do not teach (20.5%) than art (18%), social science (16%), English language (15.8%), science (15.7%), Arabic language (14.4%), physical education (12.2%) and class teachers (8.1%) reported that they were 'using modern techniques such as computer, video and media programmes' *very little*; **(e)** more English language teachers (56.6%) than social science (55.7%), class teachers (51.4%), Arabic language (51.1%), science (50.8%), art (39.3%), physical education (39%) and those who do not teach (29.5%) reported that they were 'using modern techniques such as computer, video and media programmes' *not at all*.

Item 34 (Reading specialised textbooks)

(a) more Arabic language teachers (51.4%) than physical education (39%), those who do not teach (36.4%), class teachers (35.1%), social science (35.1%), science (32.1%), English language (26.3%), and art (21.3%) reported that they were 'reading specialised textbooks' *a very great deal* to improve their professional effectiveness; (b) more English language teachers (39.5%) than science (38.5%), social science (37.6%), physical education (34.1%), Arabic language (33.3%), art (32.8%), those who do not teach (31.8%), and class teachers (27%) reported that they were 'reading specialised textbooks' *quite a lot*; (c) more art teachers (34.4%) than class teachers (24.3%), those who do not teach (22.7%), social science (21.1%), science (20.1%), English language (19.7%), physical education (12.2%), and Arabic language (11.3%) reported that they were 'reading specialised textbooks' *a little*; (d) more of physical education (12.2%) than class teachers (10.8%), art (8.2%), English language (7.9%), science (6.9%), those who do not teach (6.8%), social science (5.7%), and Arabic language (1.7%), reported that they were 'reading specialised textbooks' *very little*; (e) a very small proportion of responses, with more English language teachers (6.6%) than art (3.3%), class teachers (2.7%), science (2.5%), physical education (2.4%), Arabic language (2.3%), those who do not teach (2.3%), and social science (0.5%) reported that they were 'reading specialised textbooks' *not at all*.

Item 35 (Attending courses)

(a) more physical education teachers (26.8%) than class teachers (18.9%), art (13.3%), English language (11.8%), Arabic language (11.4%), social science (9.3%), science (7.9%), and those who do not teach (6.8%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; (b) more art teachers (25%) than physical education (24.4%), class teachers (24.3%), those who do not teach (20.5%), Arabic language (14.8%), science (13.4%), social science (12.9%), and English language (11.8%) reported that they were 'attending courses' *quite a lot*; (c) more of those who do not teach (36.4%) than class teachers (32.4%), social science (25.3%), English language (25%), art (23.3%), science (22.5%), physical education (19.5%), and Arabic language (19.3%) reported that they were 'attending courses' *a little*; (d) more English language teachers (18.4%) than social science (18%), physical education (17.1%), Arabic language (16.5%), science (13.7%), those who do not teach

(13.6%), class teachers (13.5%), and art (13.3%), and reported that they were 'attending courses' *very little*; (e) more science teachers (42.5%) than Arabic language (38.1%), social science (34.5%), English language (32.9%), art (25%), those who do not teach (22.7%), physical education (12.2%), and class teachers (10.8%) reported that they were 'attending courses' *not at all*.

Item 38 (Teaching a different groups of students)

(a) more Arabic language teachers (29%) than English language (26.7%), class teachers (21.6%), physical education (19.5%), science (19.3%), social science (18.4%), art (14.8%), and those who do not teach (4.5%), reported that they were 'teaching a different groups of students' *a very great deal* to improve their professional effectiveness; (b) more art teachers (45.9%) than physical education (39%), science (38.3%), class teachers (35.1%), those who do not teach (31.8%), social science (31.6%), Arabic language (30.7%), and English language (26.7%) reported that they were 'teaching a different groups of students' *quite a lot*; (c) more of those who do not teach (27.3%) than class teachers (24.3%), physical education (22%), social science (20.5%), science (18.5%), Arabic language (18.2%), English language (17.3%), and art (14.8%) reported that they were 'teaching a different groups of students' *a little*; (d) more of those who do not teach (20.5%) than physical education teachers (12.2%), English language (10.7%), art (9.8%), class teachers (8.1%), Arabic language (6.8%), social science (6.3%), and science (6.1%) reported that they were 'teaching a different groups of students' *very little*; (e) more social science teachers (23.2%) than English language (18.7%), science (17.9%), those who do not teach (15.9%), Arabic language (15.3%), art (14.8%), class teachers (10.8%), and physical education (7.3%) reported that they were 'teaching a different groups of students' *not at all*.

Item 40 (Visiting other schools)

(a) more physical education teachers (19.5%) than art (14.8%), Arabic language (12.4%), those who do not teach (9.3%), class teachers (8.1%), science (6.9%), social science (6.7%), and English language (6.6%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; (b) more of class teachers (32.4%) than physical education (31.7%), art (23%), those who do not teach (16.3%), Arabic language (12.4%), English language (11.8%), science (9.6%),

and social science (8.2%) reported that they were 'visiting other schools' *quite a lot*; (c) more physical education teachers (31.7%) than social science (29.9%), those who do not teach (27.9%), Arabic language (26.6%) science (25.1%), art (24.6%), English language (19.7%), and class teachers (18.9%) reported that they were 'visiting other schools' *a little*; (d) more science teachers (19.3%) than social science (19.1%), those who do not teach (16.3%), Arabic language (15.3%), English language (11.8%), art (11.5%), class teachers (10.8%), and physical education (9.8%) reported that they were 'visiting other schools' *very little*; (e) more of English language (50%) than science (39.1%), social science (36.1%), Arabic language (33.3%), those who do not teach (30.2%), class teachers (29.7%), art (26.2%), and physical education (7.3%) reported that they were 'visiting other schools' *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more Arabic language teachers (16.5%) than physical education (12.2%), those who do not teach (11.4%), art (9.8%), science (9%), English language (7.9%), class teachers (5.4%), and social science (4.6%) reported that they were 'exchanging information with other institutions' *a very great deal* to improve their professional effectiveness; (b) more of class teachers (29.7%) than physical education (29.3%), those who do not teach (20.5%), art (19.7%), Arabic language (14.2%), science (13.7%), social science (10.3%), and English language (9.2%) reported that they were 'exchanging information with other institutions' *quite a lot*; (c) more art teachers (34.4%) than social science (32%), those who do not teach (29.5%), physical education (26.8%), English language (25%), science (20.3%), Arabic language (19.3%), and class teachers (18.9%) reported that they were 'exchanging information with other institutions' *a little*; (d) more social science teachers (20.1%) than science (19.7%), physical education (19.5%), Arabic language (15.9%), those who do not teach (15.9%), class teachers (13.5%), English language (10.5%), and art (9.8%) reported that they were 'exchanging information with other institutions' *very little*; (e) more English language teachers (47.4%) than science (37.3%), Arabic language (34.1%), social science (33%), class teachers (32.4%), art (26.2%), those who do not teach (22.7%), and physical education (12.2%) reported that they were 'exchanging information with other institutions' *not at all*.

Item 43 (Being involved in school discipline and decision-making)

(a) more physical education teachers (51.2%) than those who do not teach (40.9%), Arabic language (34.5%), class teachers (32.4%), art (29.5%), science (27.9%), social science (27.8%), and English language (25%) reported that they were 'being involved in school discipline and decision-making' *a very great deal* to improve their professional effectiveness; (b) more art teachers (45.9%) than those who do not teach (36.4%), English language (35.5%), science (34.2%), class teachers (32.4%), social science (29.4%), physical education (26.8%), and Arabic language (25.4%) reported that they were 'being involved in school discipline and decision-making' *quite a lot*; (c) more social science teachers (23.2%) than Arabic language (22.6%), English language (22.4%), science (21.6%), physical education (19.5%), those who do not teach (18.2%), class teachers (13.5%), and art (9.8%) reported that they were 'being involved in school discipline and decision-making' *a little*; (d) more of class teachers (16.2%) than Arabic language (10.7%), social science (9.3%), science (9.3%), art (8.2%), English language (5.3%), those who do not teach (4.5%), and physical education (2.4%) reported that they were 'being involved in school discipline and decision-making' *very little*; (e) more English language teachers (11.8%) than social science (10.3%), Arabic language (6.8%), science (6.8%), art (6.6%), class teachers (5.4%), physical education (0%), and those who do not teach (0%) reported that they were 'being involved in school discipline and decision-making' *not at all*.

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 32 (Undertaking personal reading and study)

(a) more secondary education staff (39%) than basic education staff (30.3%) reported that they were 'undertaking personal reading and study' *a very great deal* to improve their professional effectiveness; (b) slightly more basic education staff (40.6%) than secondary education staff (38.8%) reported that they were 'undertaking personal reading and study' *quite a lot*; (c) more basic education staff (22.9%) than secondary education staff (19.7%) reported that they were 'undertaking personal reading and study' *a little*; (d) a very small proportion of responses, with more of basic education

staff (5.2%) than secondary education staff (2.3%) reported that they were 'undertaking personal reading and study' *very little*; (e) a very small proportion of responses, with a fairly even spread of basic and secondary education staff (1% and 0.2% respectively) reported that they were 'undertaking personal reading and study' *not at all*.

Item 33 (Using modern techniques such as computer, video and media programmes)

(a) more basic education staff (10.2%) than secondary education staff (6.2%) reported that they were 'using modern techniques such as computer, video and media programmes' *a very great deal* to improve their professional effectiveness; (b) slightly more basic education staff (11.5%) than secondary education staff (9.6%) reported that they were 'using modern techniques such as computer, video and media programmes' *quite a lot*; (c) more basic education staff (17.3%) than secondary education staff (13.4%) reported that they were 'using modern techniques such as computer, video and media programmes' *a little*; (d) there is a fairly even spread of basic and secondary education staff (15.2% and 15.8% respectively) reported that they were 'using modern techniques such as computer, video and media programmes' *very little*; (e) more secondary education staff (55%) than basic education staff (45.9%) reported that they were 'using modern techniques such as computer, video and media programmes' *not at all*.

Item 34 (Reading specialised textbooks)

(a) more secondary education staff (41.1%) than basic education staff (30.8%) reported that they were 'reading specialised textbooks' *a very great deal* to improve their professional effectiveness; (b) more secondary education staff (37.7%) than basic education staff (34.8%) reported that they were 'reading specialised textbooks' *quite a lot*; (c) more basic education staff (23.5%) than secondary education staff (15%) reported that they were 'reading specialised textbooks' *a little*; (d) a small proportion of responses, with more of basic education staff (7.8%) than secondary education staff (4.4%) reported that they were 'reading specialised textbooks' *very little*; (e) a very small proportion of responses, with more basic education staff (3.1%) than secondary education staff (1.7%) reported that they were 'reading specialised textbooks' *not at all*.

Item 35 (Attending courses)

(a) more basic education staff (15.5%) than secondary education staff (5.3%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; (b) more basic education staff (23.4%) than secondary education staff (6.4%) reported that they were 'attending courses' *quite a lot*; (c) more basic education staff (29.1%) than secondary education staff (17.4%) reported that they were 'attending courses' *a little*; (d) more of secondary education staff (17.6%) than basic education staff (13.6%) reported that they were 'attending courses' *very little*; (e) more of secondary education staff (53.4%) than basic education staff (18.4%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) a small proportion of responses, with a fairly even spread of basic education staff and secondary education staff (5.7% and 4.3% respectively) reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; (b) more basic education staff (10.5%) than secondary education staff (7.9%) reported that they were 'attending workshops and seminars' *quite a lot*; (c) more basic education staff (20.7%) than secondary education staff (15.3%) reported that they were 'attending workshops and seminars' *a little*; (d) there is a fairly even spread of basic education staff and secondary education staff (16.5% and 16.4% respectively) reported that they were 'attending workshops and seminars' *very little*; (e) more secondary education staff (56.2%) than basic education staff (46.6%) reported that they were 'attending workshops and seminars' *not at all*.

Item 37 (Using modern methods of teaching)

(a) more basic education staff (23.6%) than secondary education staff (19.5%) reported that they were 'using modern methods of teaching' *a very great deal* to improve their professional effectiveness; (b) more basic education staff (34.7%) than secondary education staff (28.6%) reported that they were 'using modern methods of teaching' *quite a lot*; (c) there is an even spread of basic and secondary education staff (25.1% and 26.7% respectively) reported that they were 'using modern methods of teaching' *a little*; (d) more secondary education staff (12.3%) than basic education staff (7.5%) reported that they were 'using modern methods of teaching' *very little*; (e)

more secondary education staff (12.9%) than basic education staff (9%) reported that they were ‘using modern methods of teaching’ *not at all*.

Item 40 (Visiting other schools)

(a) more basic education staff (11.5%) than secondary education staff (6.1%) reported that they were ‘visiting other schools’ *a very great deal* to improve their professional effectiveness; (b) more basic education staff (15.9%) than secondary education staff (9.5%) reported that they were ‘visiting other schools’ *quite a lot*; (c) there is an even spread of basic and secondary education staff (26.5% and 25.6% respectively) reported that they were ‘visiting other schools’ *a little*; (d) there is a fairly even spread of basic and secondary education staff (16.5% and 16.7% respectively) reported that they were ‘visiting other schools’ *very little*; (e) more secondary education staff (41.9%) than basic education staff (29.6%) reported that they were ‘visiting other schools’ *not at all*.

Item 41 (Exchanging information with other institutions)

(a) more basic education staff (12.2%) than secondary education staff (6.6%) reported that they were ‘exchanging information with other institutions’ *a very great deal* to improve their professional effectiveness; (b) more basic education staff (16.6%) than secondary education staff (12.5%) reported that they were ‘exchanging information with other institutions’ *quite a lot*; (c) more basic education staff (25%) than secondary education staff (23.3%) reported that they were ‘exchanging information with other institutions’ *a little*; (d) more secondary education staff (18.9%) than basic education staff (16.1%) reported that they were ‘exchanging information with other institutions’ *very little*; (e) more secondary education staff (38.8%) than basic education staff (30%) reported that they were ‘exchanging information with other institutions’ *not at all*.

Item 42 (Following up the advice from inspectors)

(a) more basic education staff (51.1%) than secondary education staff (41.2%) reported that they were ‘following up the advice from inspectors’ *a very great deal* to improve their professional effectiveness; (b) there is a fairly even spread of basic and secondary education staff (36.1% and 35.7% respectively) reported that they were ‘following up the advice from inspectors’ *quite a lot*; (c) more secondary education staff (13.6%) than basic education staff (8.6%) reported that they were ‘following up

the advice from inspectors' *a little*; **(d)** a very small proportion of responses, with more secondary education staff (5.7%) than basic education staff (2.5%) reported that they were 'following up the advice from inspectors' *very little*; **(e)** a very small proportion of responses, with more secondary education staff (3.8%) than basic education staff (1.7%) reported that they were 'following up the advice from inspectors' *not at all*.

Item 43 (Being involved in school discipline and decision-making)

(a) more basic education staff (34.9%) than secondary education staff (26.1%) reported that they were 'being involved in school discipline and decision-making' *a very great deal* to improve their professional effectiveness; **(b)** more basic education staff (34.2%) than secondary education staff (30.1%) reported that they were 'being involved in school discipline and decision-making' *quite a lot*; **(c)** more secondary education staff (22.5%) than basic education staff (19.5%) reported that they were 'being involved in school discipline and decision-making' *a little*; **(d)** more secondary education staff (11.7%) than basic education staff (6.5%) reported that they were 'being involved in school discipline and decision-making' *very little*; **(e)** a small proportion of responses, with more secondary education staff (9.7%) than basic education staff (5%) reported that they were 'being involved in school discipline and decision-making' *not at all*.

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 33 (Using modern techniques such as computer, video and media programmes)

(a) a small proportion of responses, with more of those who do not teach (11.8%) than those with 25 or less students (8.3%) and those with 26 or over (7.9%) reported that they were 'using modern techniques such as computer, video and media programmes' *a very great deal* to improve their professional effectiveness; **(b)** more of those with 25 or less students (13.1%) than those with 26 or over (9.8%) and those who do not teach (9.8%) reported that they were 'using modern techniques such as computer, video and media programmes' *quite a lot*; **(c)** more of those who do not teach (25.5%)

than those with 26 or over students (15.2%) and those with 25 or less (14.3%) reported that they were 'using modern techniques such as computer, video and media programmes' *a little*; **(d)** more of those who do not teach (21.6%) than those with 25 or less students (16.7%) and those with 26 or over (14.6%) reported that they were 'using modern techniques such as computer, video and media programmes' *very little*; **(e)** more of those with 26 or over students (52.6%) than those with 25 or less (47.6%) and those who do not teach (31.4%) reported that they were 'using modern techniques such as computer, video and media programmes' *not at all*.

Item 35 (Attending courses)

(a) more of those with 25 or less students (13.7%) than those who do not teach (11.8%) and those with 26 or over students (9.5%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; **(b)** more of those with 25 or less students (24.6%) than those who do not teach (19.6%) and those with 26 or over students (11.4%) reported that they were 'using modern techniques such as computer, video and media programmes' *quite a lot*; **(c)** more of those who do not teach (35.3%) than those with 25 or less students (28.5%) and those with 26 or over (20.8%) reported that they were 'attending courses' *a little*; **(d)** more of those with 25 or less students (16%) than those with 26 or over (15.6%) and those who do not teach (11.8%) reported that they were 'attending courses' *very little*; **(e)** more of those with 26 or over students (42.7%) than those who do not teach (21.6%) and those with 25 or less (17.2%) reported that they were 'attending courses' *not at all*.

Item 38 (Teaching a different groups of students)

(a) more of those with 26 or over students (23.7%) than those with 25 or less (14.6%) and those who do not teach (7.8%) reported that they were 'teaching a different groups of students' *a very great deal* to improve their professional effectiveness; **(b)** slightly more of those with 25 or less students (36.8%) than those who do not teach (35.3%) and those with 26 or over students (34.1%) reported that they were 'teaching a different groups of students' *quite a lot*; **(c)** more of those with 25 or less students (25.7%) and those who do not teach (25.5%) than those with 26 or over students (16.4%) reported that they were 'teaching a different groups of students' *a little*; **(d)** more of those who do not teach (15.7%) than those with 26 or over students (7.5%) and those with 25 or less (7.1%) reported that they were 'teaching a different groups of

students' *very little*; (e) more of those with 26 or over students (18.3%) than those with 25 or less (15.8%) and those who do not teach (15.7%) reported that they were 'teaching a different groups of students' *not at all*.

Item 43 (Being involved in school discipline and decision-making)

(a) more of those who do not teach (39.2%) than those with 25 or less students (35.5%) and those with 26 or over (28.3%) reported that they were 'being involved in school discipline and decision-making' *a very great deal* to improve their professional effectiveness; (b) more of those who do not teach (35.3%) than those with 26 or over students (32.1%) and those with 25 or less (31.6%) reported that they were 'being involved in school discipline and decision-making' *quite a lot*; (c) more of those with 26 or over students (21.5%) than those who do not teach (19.6%) and those with 25 or less (19.5%) reported that they were 'being involved in school discipline and decision-making' *a little*; (d) more of those with 26 or over students (10.3%) than those with 25 or less (6.3%) and those who do not teach (3.9%) reported that they were 'being involved in school discipline and decision-making' *very little*; (e) a small proportion of responses, with more of those with 26 or over students (7.7%) than those with 25 or less (7%) and those who do not teach (2%) reported that they were 'being involved in school discipline and decision-making' *not at all*.

Main level of class (es) taught in basic education (MLCTBE)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by MLCTBE the following results emerge (percentages indicate the proportion of the total number of MLCTBE categories):

Item 38 (Teaching a different groups of students)

(a) more of those who teach class (es) seven to ninth (21.4%) and those whose teaching is equally distributed (21.2%) than those who teach class (es) first to sixth (19.8%) and those who do not teach (2.6%) reported that they were 'teaching a different groups of students' *a very great deal* to improve their professional effectiveness; (b) more of those whose teaching groups are equally distributed (51.5%) than those who teach class (es) first to sixth (36.3%), those who teach seven to ninth (33.7%) and those who do not teach (33.3%) reported that they were 'teaching a different groups of students' *quite a lot*; (c) more of those who do not teach (23.1%)

than those whose teaching is equally distributed (21.2%), who teach class (es) seven to ninth (19.5%) and first to sixth (18.7%) reported that they were 'teaching a different groups of students' 'a little'; **(d)** more of those who do not teach (17.9%) than those who teach class (es) seven to ninth (8.3%), first to sixth (6.6%) and whose teaching is equally distributed (0%) reported that they were 'teaching a different groups of students' 'very little'; **(e)** more of those who do not teach (23.1%) than those who teach class (es) first to sixth (18.7%), seven to ninth (17.1%) and those whose teaching is equally distributed (6.2%) reported that they were 'teaching a different groups of students' *not at all*

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 35 (Attending courses)

(a) more of those who work in a remote area (22.1%) than rural (12.1%) and urban (9%) reported that they were 'attending courses' *a very great deal* to improve their professional effectiveness; **(b)** more of those who work in a remote area (32.4%) than rural (21.5%) and urban (10.9%) reported that they were 'attending courses' *quite a lot*; **(c)** more of those who work in a rural area (30.2%) than remote (22.1%) and urban (21.1%) reported that they were 'attending courses' *a little*; **(d)** more of those who work in an urban area (17%) than rural (13.6%) and remote (8.8%) reported that they were 'attending courses' *very little*; **(e)** more of those who work in an urban area (42%) than rural (22.6%) and remote (14.7%) reported that they were 'attending courses' *not at all*.

Item 36 (Attending workshops and seminars)

(a) a very small proportion of responses, with more of those who work in a rural area (5.7%) and urban (5.2%) than remote (1.4%) reported that they were 'attending workshops and seminars' *a very great deal* to improve their professional effectiveness; **(b)** more of those who work in a remote area (18.8%) than rural (10.6%) and urban (7.8%) reported that they were 'attending workshops and seminars' *quite a lot*; **(c)** more of those who work in a rural area (21.6%) than remote (20.3%) and urban

(16.6%) reported that they were 'attending workshops and seminars' *a little*; **(d)** more of those who work in a rural area (17%) and urban (16.7%) than remote (11.6%) reported that they were 'attending workshops and seminars' *very little*; **(e)** more of those who work in an urban area (53.7%) than remote (47.8%) and rural (45.1%) reported that they were 'attending workshops and seminars' *not at all*.

Item 40 (Visiting other schools)

(a) a small proportion of responses, with more of those who work in a rural area (9.8%) than urban (8.8%) and remote (7.4%) reported that they were 'visiting other schools' *a very great deal* to improve their professional effectiveness; **(b)** more of those who work in a remote area (22.1%) than rural (12.8%) and urban (12%) reported that they were 'visiting other schools' *quite a lot*; **(c)** more of those who work in a rural area (29.4%) than remote (25%) and urban (24.9%) reported that they were 'visiting other schools' *a little*; **(d)** more of those who work in a remote area (19.1%) than rural (18.1%) and urban (15.8%) reported that they were 'visiting other schools' *very little*; **(e)** more of those who work in an urban area (38%) than rural (29.8%) and remote (26.5%) reported that they were 'visiting other schools' *not at all*.

Item 43 (Being involved in school discipline and decision-making)

(a) more of those who work in a remote area (44.9%) than rural (33.5%) and urban (28.1%) reported that they were 'being involved in school discipline and decision-making' *a very great deal* to improve their professional effectiveness; **(b)** more of those who work in a rural area (34.6%) than urban (31.7%) and remote (29%) reported that they were 'being involved in school discipline and decision-making' *quite a lot*; **(c)** more of those who work in an urban area (21.9%) than remote (20.3%) and rural (18.8%) reported that they were 'being involved in school discipline and decision-making' *a little*; **(d)** a small proportion of responses, with more of those who work in an urban area (10%) than rural (7.1%) and remote (4.3%) reported that they were 'being involved in school discipline and decision-making' *very little*; **(e)** a small proportion of responses, with more of those who work in an urban area (8.3%) than rural (6%) and remote (1.4%) reported that they were 'being involved in school discipline and decision-making' *not at all*.

APPENDIX

5

CROSSTABULATED BIOGRAPHICAL DETAILS BY ACTIVITIES WHICH TEACHERS FEEL MIGHT HELP TO IMPROVE THEIR PROFESSIONAL EFFECTIVENESS IN FUTURE

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning activities which teachers feel might help to improve their professional effectiveness in future.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 46 (Using modern techniques such as computer, video and media programmes)

(a) a very high proportion of responses, with slightly more males (89.5%) than females (81.6%) reported that 'using modern techniques such as computer, video and media programmes' is *important*; (b) a very small proportion of responses, with more females (9.5%) than males (5.6%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more females (8.9%) than males (4.8%).

Item 48 (Attending courses)

(a) a very high proportion of responses, with more males (91.8%) than females (79.7%) reported that 'attending courses' is *important*; (b) a very small proportion of responses, with more females (9.2%) than males (3.6%) reported that is *not important*;

(c) a small proportion of responses were *not sure*, with more females (11%) than males (4.6%).

Item 49 (Attending workshops and seminars)

(a) a high proportion of responses, with more males (78.8%) than females (67.9%) reported that 'attending workshops and seminars' is *important*; (b) a small proportion of responses, with more females (13.6%) than males (9.2%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more females (18.5%) than males (12%).

Item 51 (Teaching a different groups of students)

(a) a high proportion of responses, with more females (70.3%) than males (63.4%) reported that 'teaching a different groups of students' is *important*; (b) a small proportion of responses, with a fairly even spread of males and females (15.5% and 14.3% respectively) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more males (21.1%) than females (15.3%).

Item 53 (Visiting other schools)

(a) a high proportion of responses, with more males (78.1%) than females (61.4%) reported that 'visiting other schools' is *important*; (b) more females (24.7%) than males (10.6%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with slightly more females (13.9%) than males (11.3%).

Item 54 (Exchanging information with other institutions)

(a) a high proportion of responses, with more males (85.1%) than females (73.3%) reported that 'exchanging information with other institutions' is *important*; (b) a small proportion of responses, with more females (13.6%) than males (6.4%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more females (13.1%) than males (8.5%).

Age group

When one reviews the specifics of the crosstabulated distributions for these rating scale items by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 46 (Using modern techniques such as computer, video and media programmes)

(a) a very high proportion of responses, with more of those aged 41 years and above (93.3%) than 40 years or less (83.4%) reported that 'using modern techniques such as computer, video and media programmes' is *important*; (b) a very small proportion of responses, with more of those aged 40 years or less (8.6%) than 41 years and above (3.4%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those aged 40 years or less (8%) than 41 years and above (3.4%).

Item 48 (Attending courses)

(a) a very high proportion of responses, with more of those aged 41 years and above (95.8%) than 40 years or less (82.7%) reported that 'attending courses' is *important*; (b) a very small proportion of responses, with more of those aged 40 years or less (7.8%) than 41 years and above (2.5%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those aged 40 years or less (9.5%) than 41 years and above (1.7%).

Item 49 (Attending workshops and seminars)

(a) a high proportion of responses, with more of those aged 41 years and above (82.4%) than 40 years or less (70.5%) reported that 'attending workshops and seminars' is *important*; (b) a small proportion of responses, with slightly more of those aged 40 years or less (12.2%) than 41 years and above (10.9%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those aged 40 years or less (17.2%) than 41 years and above (6.7%).

Item 53 (Visiting other schools)

(a) a very high proportion of responses, with more of those aged 41 years and above (83.9%) than 40 years or less (65.4%) reported that 'visiting other schools' is *important*; (b) more of those aged 40 years or less (21.2%) than 41 years and above (7.6%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those aged 40 years or less (13.5%) than 41 years and above (8.5%).

Item 54 (Exchanging information with other institutions)

(a) a very high proportion of responses, with more of those aged 41 years and above (89%) than 40 years or less (76.2%) reported that 'exchanging information with other institutions' is *important*; (b) a small proportion of responses, with more of those aged 40 years or less (12.1%) than 41 years and above (2.5%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those aged 40 years or less (11.8%) than 41 years and above (8.5%).

Item 56 (Being involved in school discipline and decision-making)

(a) a very high proportion of responses, with more of those aged 41 years and above (94.1%) than 40 years or less (88%) reported that 'being involved in school discipline and decision-making' is *important*; (b) a very small proportion of responses, with more of those aged 40 years or less (5.4%) than 41 years and above (1.7%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those aged 40 years or less (6.5%) than 41 years and above (4.2%).

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 46 (Using modern techniques such as computer, video and media programmes)

(a) a very high proportion of responses, with more non school staff (94.6%) than school staff (83.3%) reported that 'using modern techniques such as computer, video and media programmes' is *important*; (b) a very small proportion of responses, with more of school staff (8.6%) than non school staff (3.6%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of school staff (8.1%) than non school staff (1.8%).

Item 48 (Attending courses)

(a) a very high proportion of responses, with more non school staff (99.1%) than school staff (82.4%) reported that 'attending courses' is *important*; (b) a very small proportion of responses, with more of school staff (7.9%) than non school staff (0.9%)

reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of school staff (9.7%) than non school staff (0%).

Item 49 (Attending workshops and seminars)

(a) a high proportion of responses, with more non school staff (89.2%) than school staff (69.8%) reported that 'attending workshops and seminars' is *important*; (b) a small proportion of responses, with more of school staff (12.9%) than non school staff (4.5%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of school staff (17.3%) than non school staff (6.3%).

Item 53 (Visiting other schools)

(a) a high proportion of responses, with more non school staff (80.2%) than school staff (65.9%) reported that 'visiting other schools' is *important*; (b) a small proportion of responses, with more of school staff (21.4%) than non school staff (4.5%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of school staff (15.3%) than non school staff (12.7%).

Item 54 (Exchanging information with other institutions)

(a) a high proportion of responses, with more non school staff (85.5%) than school staff (76.6%) reported that 'exchanging information with other institutions' is *important*; (b) a small proportion of responses, with more of school staff (11.8%) than non school staff (3.6%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with a fairly even spread of school staff and non school staff (11.5% and 10.9% respectively).

Item 56 (Being involved in school discipline and decision-making)

(a) a very high proportion of responses, with more non school staff (95.5%) than school staff (87.9%) reported that 'being involved in school discipline and decision-making' is *important*; (b) a very small proportion of responses, with more of school staff (5.3%) than non school staff (2.7%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of school staff (6.9%) than non school staff (1.8%).

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 46 (Using modern techniques such as computer, video and media programmes)

(a) a very high proportion of responses, with more of those with 21 years and above experience (94.2%) than 20 years or less (83.2%) reported that 'using modern techniques such as computer, video and media programmes' is *important*; (b) a very small proportion of responses, with more of those with 20 years or less experience (8.6%) than 21 years and above (4.2%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those with 20 years or less experience (8.2%) than 21 years and above (1.7%).

Item 48 (Attending courses)

(a) a very high proportion of responses, with more of those with 21 years and above experience (96.7%) than 20 years or less (82.5%) reported that 'attending courses' is *important*; (b) a very small proportion of responses, with more of those with 20 years or less experience (7.9%) than 21 years and above (1.7%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those with 20 years or less experience (9.6%) than 21 years and above (1.7%).

Item 49 (Attending workshops and seminars)

(a) a high proportion of responses, with more of those with 21 years and above experience (83.3%) than 20 years or less (70.3%) reported that 'attending workshops and seminars' is *important*; (b) a small proportion of responses, with more of those with 20 years or less experience (12.4%) than 21 years and above (9.2%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those with 20 years or less experience (17.2%) than 21 years and above (7.5%).

Item 53 (Visiting other schools)

(a) a high proportion of responses, with more of those with 21 years and above experience (84.9%) than 20 years or less (65.2%) reported that 'visiting other schools' is *important*; (b) more of those with 20 years or less experience (21.4%) than 21 years and above (5.9%) reported that is *not important*; (c) a small proportion of responses

were *not sure*, with more of those with 20 years or less experience (13.5%) than 21 years and above (9.2%).

Item 54 (Exchanging information with other institutions)

(a) a very high proportion of responses, with more of those with 21 years and above experience (87.4%) than 20 years or less (76.3%) reported that 'exchanging information with other institutions' is *important*; (b) a small proportion of responses, with more of those with 20 years or less experience (12.1%) than 21 years and above (2.5%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with a fairly spread of those with 20 years or less and 21 years and above experience (11.7% and 10.1% respectively).

Item 56 (Being involved in school discipline and decision-making)

(a) a very high proportion of responses, with more of those with 21 years and above experience (95%) than 20 years or less (87.8%) reported that 'being involved in school discipline and decision-making' is *important*; (b) a very small proportion of responses, with more of those with 20 years or less experience (5.4%) than 21 years and above (1.7%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those with 20 years or less experience (6.7%) than 21 years and above (3.3%).

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 48 (Attending courses)

(a) a very high proportion of responses, with more of those with a diploma qualification (88.8%) than degree (79%) reported that 'attending courses' is *important*; (b) a very small proportion of responses, with more of those with a degree qualification (8.9%) than diploma (5.6%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those with a degree qualification (12.1%) than diploma (5.6%).

Item 53 (Visiting other schools)

(a) a high proportion of responses, with more of those with a diploma qualification (73.7%) than degree (61%) reported that 'visiting other schools' is *important*; (b) more of those with a degree qualification (22.1%) than diploma (17.2%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those with a degree qualification (16.9%) than diploma (9.1%).

Item 54 (Exchanging information with other institutions)

(a) a very high proportion of responses, with more of those with a diploma qualification (81.8%) than degree (73%) reported that 'exchanging information with other institutions' is *important*; (b) a small proportion of responses, with more of those with a degree qualification (12.4%) than diploma (9.7%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of those with a degree qualification (14.6%) than diploma (8.5%).

Item 56 (Being involved in school discipline and decision-making)

(a) a very high proportion of responses, with more of those with a diploma qualification (91.2%) than degree (85.9%) reported that 'being involved in school discipline and decision-making' is *important*; (b) a very small proportion of responses, with more of those with a degree qualification (7.8%) than diploma (2.3%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with a fairly spread of those with a degree and diploma qualifications (6.5% and 6.3% respectively).

Main subject

When one reviews the specifics of the crosstabulated distributions for these rating scale items by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 47 (Reading specialised textbooks)

(a) a very high proportion of responses, with more of class teachers (100%) and English language (100%) than social science (99%), art (98.4%), science (98.1%), Arabic language (96.6%), those who do not teach (93.2%) and physical education (92.7%) reported that 'reading specialised textbooks' is *important*; (b) a very low proportion of responses, with more of those who do not teach (4.5%) than physical

education (2.4%), science (1.1%), class teachers (0%), English language (0%), Arabic language (0%), social science (0%), and art (0%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more physical education teachers (4.9%) than Arabic language (3.4%), those who do not teach (2.3%), art (1.6%), social science (1%), class teachers (0%), English language (0%), and science (0%).

Item 51 (Teaching a different groups of students)

(a) more art teachers (78.7%) than Arabic language (77.1%), physical education (73.2%), class teachers (73%), science (67.3%), English language (67.1%), those who do not teach (61.4%) and social science (57.1%) reported that 'teaching a different groups of students' is *important*; (b) more social science teachers (18.3%) than those who do not teach (18.2%), science (17.3%), Arabic language (12.6%), physical education (12.2%), class teachers (10.8%), art (9.8%) and English language (7.9%) reported that is *not important*; (c) more English language teachers (25%) than social science (24.6%), those who do not teach (20.5%), class teachers (16.2%), science (15.4%), physical education (14.6%), art (11.5%) and Arabic language (10.3%) reported that they were *not sure*.

Item 53 (Visiting other schools)

(a) more physical education teachers (90.2%) than art (85.2%), class teachers (81.1%), those who do not teach (68.2%), Arabic language (66.7%), science (64%), social science (57.8%) and English language (56%) reported that 'visiting other schools' is *important*; (b) more of those who do not teach (29.5%) than English language teachers (28%), Arabic language (23.6%), social science (22.9%), science (21.7%), class teachers (13.5%), art (8.2%) and physical education (4.9%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more social science teachers (19.3%) than English language (16%), science (14.3%), Arabic language (9.8%), art (6.6%), class teachers (5.4%), physical education (4.9%) and those who do not teach (2.3%).

Item 54 (Exchanging information with other institutions)

(a) a very high proportion of responses, with more physical education teachers (95.1%) than art (88.5%), class teachers (81.1%), those who do not teach (77.3%),

social science (76.8%), Arabic language (75.1%), science (73.9%) and English language (72.4%) reported that 'exchanging information with other institutions' is *important*; **(b)** a small proportion of responses, with more English language teachers (18.4%) than those who do not teach (15.9%), Arabic language (13.6%), social science (12.4%), science (11.3%), class teachers (8.1%), art (4.9%) and physical education (2.4%) reported that is *not important*; **(c)** a small proportion of responses were *not sure*, with more science teachers (14.8%) than Arabic language (11.3%), class teachers (10.8%), social science (10.8%), English language (9.2%), those who do not teach (6.8%), art (6.6%) and physical education (2.4%).

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 47 (Reading specialised textbooks)

(a) a very high proportion of responses, with slightly more secondary education staff (99.4%) than basic education staff (96.4%) reported that 'reading specialised textbooks' is *important*; **(b)** a very small proportion of responses, with a fairly even spread of basic and secondary education staff (1% and 0.4% respectively) reported that is *not important*; **(c)** a very small proportion of responses were *not sure*, with a fairly even spread of basic and secondary education staff (2.7% and 2% respectively).

Item 48 (Attending courses)

(a) a high proportion of responses, with more basic education staff (87.6%) than secondary education staff (76.9%) reported that 'attending courses' is *important*; **(b)** a small proportion of responses, with more secondary education staff (9.6%) than basic education staff (6.3%) reported that is *not important*; **(c)** a small proportion of responses were *not sure*, with more secondary education staff (13.6%) than basic education staff (6.1%).

Item 52 (Working with other teachers)

(a) a very high proportion of responses, with slightly more secondary education staff (89.6%) than basic education staff (84.3%) reported that 'working with other teachers' is *important*; **(b)** a very small proportion of responses, with a fairly even spread of

basic and secondary education staff (6.7% and 5.9% respectively) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more basic education staff (9%) than secondary education staff (4.4%).

Item 53 (Visiting other schools)

(a) more basic education staff (72.1%) than secondary education staff (59.1%) reported that 'visiting other schools' is *important*; (b) more of secondary education staff (23.8%) than basic education staff (18.9%) reported that is *not important*; (c) a small proportion of responses were *not sure*, with more of secondary education staff (17%) than basic education staff (9.1%).

Item 54 (Exchanging information with other institutions)

(a) a high proportion of responses, with more basic education staff (81.5%) than secondary education staff (71.6%) reported that 'exchanging information with other institutions' is *important*; (b) a small proportion of responses, with more of secondary education staff (13.6%) than basic education staff (10.1%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of secondary education staff (14.8%) than basic education staff (8.4%).

Item 56 (Being involved in school discipline and decision-making)

(a) a very high proportion of responses, with slightly more basic education staff (90.8%) than secondary education staff (84.7%) reported that 'being involved in school discipline and decision-making' is *important*; (b) a very small proportion of responses, with more of secondary education staff (8.1%) than basic education staff (2.7%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with a fairly even spread of basic and secondary education staff (6.5% and 7.2% respectively).

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 46 (Using modern techniques such as computer, video and media programmes)

(a) a very high proportion of responses, with more of those who do not teach (96.1%) than those with 25 students or less (83.2%) and those with 26 or over (82.2%) reported that 'using modern techniques such as computer, video and media programmes' is *important*; (b) a very small proportion of responses, with more of those with 26 students or over (9.3%) and 25 or less (8.6%) than those who do not teach (2%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those with 26 students or over (8.4%) and 25 or less (8.2%) than those who do not teach (3.2%).

Item 47 (Reading specialised textbooks)

(a) a very high proportion of responses, with more of those with 26 students or over (98.7%) than those with 25 students or less (96.1%) and those who do not teach (94.1%) reported that 'reading specialised textbooks' is *important*; (b) a very small proportion of responses, with more of those who do not teach (3.9%) than those with 25 or less students (0.8%) and those with 26 students or over (0.4%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those 25 or less students (3.1%) than those who do not teach (2%) and those with 26 students or over (0.9%).

Main level of class (es) taught in basic education (MLCTBE)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by MLCTBE the following results emerge (percentages indicate the proportion of the total number of MLCTBE categories):

Item 53 (Visiting other schools)

(a) a high proportion of responses, with more of those whose teaching is equally distributed (84.8%) and those who teach class (es) first to sixth (83.5%) than those who do not teach (71.8%) and those who teach class (es) seven to ninth (68.6%) reported that 'visiting other schools' is *important*; (b) a small proportion of responses, with more of those who do not teach (25.6%) than those who teach seven to ninth (20.9%), first to sixth (11%) and those whose teaching groups are equally distributed (9.1%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those who teach seven to ninth (10.5%) than those whose

teaching groups are equally distributed (6.1%), first to sixth (5.5%) and those who do not teach (2.6%).

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 48 (Attending courses)

(a) a very high proportion of responses, with more of those who work in a remote area (91.3%) than rural (87.5%) and urban (79.8%) reported that 'attending courses' is *important*; (b) a very small proportion of responses, with more of those who work in an urban area (9%) than remote (5.8%) and rural (5.3%) reported that is *not important*; (c) a very small proportion of responses were *not sure*, with more of those who work in an urban area (11.2%) than rural (7.2%) and remote(2.9%).

APPENDIX

6

CROSSTABULATED BIOGRAPHICAL DETAILS BY A RANGE OF INSET PROGRAMMING ISSUES WHICH COULD IMPROVE TEACHERS' PROFESSIONAL EFFECTIVENESS

Crosstabulated data are presented to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning a range of INSET programming issues to improve teachers' professional effectiveness.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 58 (INSET programmes should enable teachers to carry out new duties)

(a) a high proportion of responses, with more females (84.6%) than males (77%) *agreed* that 'INSET programmes should enable teachers to carry out new duties'; (b) a small proportion of responses, with more males (12.2%) than females (8.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more males (10.7%) than females (7.1%).

Item 62 (INSET programmes should provide opportunities for teachers to meet with other institutions' staff)

(a) a very high proportion of responses, with more males (91.8%) than females (86.4%) *agreed* that 'INSET programmes should provide opportunities for teachers to meet with other institutions' staff'; (b) a very small proportion of responses, with

more females (6.1%) than males (3.4%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more females (7.5%) than males (4.9%).

Item 69 (INSET programmes should provide opportunities to obtain new promotion)

(a) a high proportion of responses, with more females (82.6%) than males (75.1%) *agreed* that 'INSET programmes should provide opportunities to obtain new promotion'; (b) a small proportion of responses, with more males (12.4%) than females (5.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of males and females (12.4% and 12.1% respectively).

Item 71 (INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators)

(a) a very high proportion of responses, with slightly more males (93.6%) than females (90.1%) *agreed* that 'INSET programmes should provide opportunities for talented teachers to use their expertise as lecturers/demonstrators'; (b) a very small proportion of responses, with a fairly even spread of males and females (2.1% and 3% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more females (7%) than males (4.4%).

Item 73 (INSET programmes should help parental involvement in their children's education)

(a) a very high proportion of responses, with more females (89.2%) than males (81.7%) *agreed* that 'INSET programmes should help parental involvement in their children's education'; (b) a very small proportion of responses, with more males (6.2%) than females (3.5%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more males (12.1%) than females (7.2%).

Item 74 (INSET programmes should be a high priority in the Libyan education system)

(a) a very high proportion of responses, with slightly more males (88.7%) than females (84.5%) *agreed* that 'INSET programmes should be a high priority in the Libyan education system'; (b) a very small proportion of responses, with a fairly even spread of males and females (2.8% and 4% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more females (11.6%) than males (8.4%).

Item 75 (INSET programmes should focus on improving students' achievements/ standards)

(a) a very high proportion of responses, with slightly more females (97.5%) than males (94.1%) *agreed* that 'INSET programmes should focus on improving students' achievements/standards'; (b) a very small proportion of responses, with a fairly even spread of males and females (2.8% and 1.1% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more males (3.1%) than females (1.4%).

Item 81 (INSET programmes should benefit the whole school)

(a) a very high proportion of responses, with slightly more females (93.5%) than males (89.3%) *agreed* that 'INSET programmes should benefit the whole school'; (b) a small proportion of responses, with a fairly even spread of males and females (3.1% and 2% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more males (7.7%) than females (4.5%).

Item 92 (Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance)

(a) a very high proportion of responses, with slightly more males (93.9%) than females (90.3%) *agreed* that 'teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance'; (b) a very small proportion of responses, with a fairly even spread of males and females (2.6% and 3% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more females (6.8%) than males (3.6%).

Item 95 (Teachers attending INSET programmes should have teaching experience in the subject)

(a) a high proportion of responses, with more males (85.2%) than females (78%) *agreed* that 'teachers attending INSET programmes should have teaching experience in the subject'; (b) a small proportion of responses, with slightly more females (11.8%) than males (9.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more females (10.2%) than males (5.2%).

Age group

When one reviews the specifics of the crosstabulated distributions for these rating scale items by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 62 (INSET programmes should provide opportunities for teachers to meet with other institutions' staff)

(a) a very high proportion of responses, with more of those aged 41 years and above (95.7%) than 40 years or less (87.4%) *agreed* that 'INSET programmes should provide opportunities for teachers to meet with other institutions' staff'; (b) a very small proportion of responses, with more of those aged 40 years or less (5.6%) than 41 years and above (0.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those aged 40 years or less (7%) than 41 years and above (3.4%).

Item 72 (INSET programmes should be a continuing process)

(a) a high proportion of responses, with more of those aged 41 years and above (86.6%) than 40 years or less (75.8%) *agreed* that 'INSET programmes should be a continuing process'; (b) a small proportion of responses, with more of those aged 40 years or less (12.5%) than 41 years and above (8.4%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those aged 40 years or less (11.7%) than 41 years and above (5%).

Item 73 (INSET programmes should help parental involvement in their children's education)

(a) a high proportion of responses, with more of those 40 years or less (88%) than those aged 41 years and above (74.4%) *agreed* that 'INSET programmes should help parental involvement in their children's education'; (b) a small proportion of responses, with more of those 41 years and above (10.3%) than those aged 40 years or less (3.8%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those 41 years and above (15.4%) than those aged 40 years or less (8.2%).

Item 77 (INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems)

(a) a very high proportion of responses, with more of those aged 41 years and above (100%) than 40 years or less (94.7%) *agreed* that 'INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems'; (b) a very small proportion of responses, with more of those aged 40 years or less (2.1%) than 41 years and above (0%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those aged 40 years or less (3.2%) than 41 years and above (0%).

Item 81 (INSET programmes should benefit the whole school)

(a) a very high proportion of responses, with more of those aged 40 years or less (92.7%) than 41 years and above (85.7%) *agreed* that 'INSET programmes should benefit the whole school'; (b) a very small proportion of responses, with more of those aged 41 years and above (5.9%) than 40 years or less (1.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those aged 41 years and above (8.4%) than 40 years or less (5.3%).

Item 84 (Every teacher should be required to participate in INSET programmes regularly)

(a) a high proportion of responses, with more of those aged 41 years and above (84.9%) than 40 years or less (72.8%) *agreed* that 'every teacher should be required to participate in INSET programmes regularly'; (b) a small proportion of responses, with more of those aged 40 years or less (13.1%) than 41 years and above (6.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those aged 40 years or less (14%) than 41 years and above (8.4%).

Item 89 (There should be use of educational technology in INSET programmes)

(a) a very high proportion of responses, with more of those aged 41 years and above (95%) than 40 years or less (86.6%) *agreed* that 'there should be use of educational technology in INSET programmes'; (b) a very small proportion of responses, with a fairly even spread of those aged 40 years or less and 41 years and above (3.9% and 2.5% respectively) *disagreed* with the statement; (c) a very small proportion of

responses were *undecided*, with more of those aged 40 years or less (9.5%) than 41 years and above (2.5%).

Item 90 (Inspectors are more qualified than teachers to identify the need for INSET programmes)

(a) a high proportion of responses, with more of those aged 41 years and above (73.9%) than 40 years or less (64.8%) *agreed* that 'inspectors are more qualified than teachers to identify the need for INSET programmes'; (b) a small proportion of responses, with more of those aged 40 years or less (16.9%) than 41 years and above (9.2%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of those aged 40 years or less (18.4%) than 41 years and above (16.8%).

Item 95 (Teachers attending INSET programmes should have teaching experience in the subject)

(a) a very high proportion of responses, with more of those aged 41 years and above (91.6%) than 40 years or less (79.2%) *agreed* that 'teachers attending INSET programmes should have teaching experience in the subject'; (b) a small proportion of responses, with more of those aged 40 years or less (11.7%) than 41 years and above (5.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those aged 40 years or less (9.2%) than 41 years and above (2.5%).

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 60 (INSET programmes should provide opportunities to get away from the school environment)

(a) a moderate proportion of responses, with more of school staff (58.5%) than non school staff (46.3%) *agreed* that 'INSET programmes should provide opportunities to get away from the school environment'; (b) a quite small proportion of responses, with more of non school staff (29.6%) than school staff (22.2%) *disagreed* with the

statement; (c) a small proportion of responses were *undecided*, with more of non school staff (24.1%) than school staff (19.3%).

Item 61 (INSET programmes should help teachers to overcome deficits of initial training)

(a) a very high proportion of responses, with more of non school staff (97.3%) than school staff (87.7%) *agreed* that 'INSET programmes should help teachers to overcome deficits of initial training'; (b) a very small proportion of responses, with more of school staff (3.9%) than non school staff (0.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of school staff (8.4%) than non school staff (1.8%).

Item 62 (INSET programmes should provide opportunities for teachers to meet with other institutions' staff)

(a) a very high proportion of responses, with more of non school staff (94.4%) than non school staff (87.7%) *agreed* that 'INSET programmes should provide opportunities for teachers to meet with other institutions' staff'; (b) a very small proportion of responses, with more of school staff (5.6%) than non school staff (0.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of school staff (6.8%) than non school staff (4.6%).

Item 64 (INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects)

(a) a very high proportion of responses, with more of non school staff (96.4%) than school staff (89.7%) *agreed* that 'INSET programmes should be centred on acquiring and deepening new knowledge in various school subjects'; (b) a very small proportion of responses, with an equal spread (3.6%) of school staff and non school staff *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of school staff (6.7%) than non school staff (0%).

Item 69 (INSET programmes should provide opportunities to obtain new promotion)

(a) a high proportion of responses, with more of school staff (81.2%) than non school staff (69.1%) *agreed* that 'INSET programmes should provide opportunities to obtain new promotion'; (b) a small proportion of responses, with more of non school staff (12.7%) than school staff (7.3%) *disagreed* with the statement; (c) a small proportion

of responses were *undecided*, with more of non school staff (18.2%) than school staff (11.5%).

Item 72 (INSET programmes should be a continuing process)

(a) a high proportion of responses, with more of non school staff (84.7%) than school staff (76.1%) *agreed* that 'INSET programmes should be a continuing process'; (b) a small proportion of responses, with more of school staff (12.8%) than non school staff (6.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of school staff (11.2%) than non school staff (9%).

Item 73 (INSET programmes should help parental involvement in their children's education)

(a) a high proportion of responses, with more of school staff (87.6%) than non school staff (77.1%) *agreed* that 'INSET programmes should provide opportunities to get away from the school environment'; (b) a very small proportion of responses, with more of non school staff (8.3%) than school staff (4.1%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of non school staff (14.7%) than school staff (8.3%).

Item 76 (INSET programmes should be used to improve the quality and use of assessment of students)

(a) a very high proportion of responses, with more of non school staff (98.2%) than school staff (92.9%) *agreed* that 'INSET programmes should be used to improve the quality and use of assessment of students'; (b) a very small proportion of responses, with slightly more of school staff (2.2%) than non school staff (0.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of school staff (4.9%) than non school staff (0.9%).

Item 77 (INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems)

(a) a very high proportion of responses, with slightly more of non school staff (99.1%) than school staff (94.7%) *agreed* that 'INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems'; (b) a very small proportion of responses, with more of school staff (2.2%) than non school staff (0%) *disagreed* with the statement; (c) a very small proportion of

responses were *undecided*, with more of school staff (3%) than non school staff (0.9%).

Item 81 (INSET programmes should benefit the whole school)

(a) a very high proportion of responses, with more of school staff (92.8%) than non school staff (84.7%) *agreed* that 'INSET programmes should benefit the whole school'; (b) a very small proportion of responses, with more of non school staff (6.3%) than school staff (1.9%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of non school staff (9%) than school staff (5.3%).

Item 83 (If teachers were involved in planning INSET programmes, their commitment to them would be greater)

(a) a very proportion of responses, with more of non school staff (96.4%) than school staff (85.6%) *agreed* that 'if teachers were involved in planning INSET programmes, their commitment to them would be greater'; (b) a very small proportion of responses, with slightly more of school staff (3.3%) than non school staff (1.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of school staff (11%) than non school staff (1.8%).

Item 84 (Every teacher should be required to participate in INSET programmes regularly)

(a) a high proportion of responses, with more of non school staff (84.5%) than school staff (72.9%) *agreed* that 'every teacher should be required to participate in INSET programmes regularly'; (b) a small proportion of responses, with more of school staff (13.5%) than non school staff (3.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with slightly more of school staff (13.6%) than non school staff (11.8%).

Item 89 (There should be use of educational technology in INSET programmes)

(a) a very high proportion of responses, with more of non school staff (93.7%) than school staff (86.8%) *agreed* that 'there should be use of educational technology in INSET programmes'; (b) a very small proportion of responses, with more of school staff (4%) than non school staff (1.8%) *disagreed* with the statement; (c) a very small

proportion of responses were *undecided*, with more of school staff (9.3%) than non school staff (4.5%).

Item 90 (Inspectors are more qualified than teachers to identify the need for INSET programmes)

(a) a high proportion of responses, with more of non school staff (85.6%) than school staff (63.6%) *agreed* that ‘inspectors are more qualified than teachers to identify the need for INSET programmes’; (b) a small proportion of responses, with more of school staff (17.4%) than non school staff (3.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of school staff (19%) than non school staff (10.8%).

Item 93 (Assessment of teachers during INSET activities would undermine the INSET programmes)

(a) a quite moderate proportion of responses, with more of school staff (39.1%) than non school staff (27.9%) *agreed* that ‘assessment of teachers during INSET activities would undermine the INSET programmes’; (b) a moderate proportion of responses, with more of non school staff (45%) than school staff (33.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with an equal spread (27%) of school staff and non school staff.

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 73 (INSET programmes should help parental involvement in their children’s education)

(a) a high proportion of responses, with more of those with 20 years or less experience (87.9%) than 21 years and above (75.2%) *agreed* that ‘INSET programmes should help parental involvement in their children’s education’; (b) a small proportion of responses, with more of those with 21 years and above experience (11.1%) than 20 years or less (3.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 21 years and above experience (13.7%) than 20 years or less (8.4%).

Item 79 (INSET programmes should be used to benefit from a range of resources in school)

(a) a high proportion of responses, with more of those with 20 years or less experience (83.3%) than 21 years and above (73.3%) *agreed* that 'INSET programmes should be used to benefit from a range of resources in school'; (b) a very small proportion of responses, with a fairly even spread of those with 20 years or less and 21 years or above experience (4.1% and 5.8% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 21 years and above experience (20.8%) than 20 years or less (12.6%).

Item 89 (There should be use of educational technology in INSET programmes)

(a) a very high proportion of responses, with more of those with 21 years and above experience (95%) than 20 years or less (86.5%) *agreed* that 'there should be use of educational technology in INSET programmes'; (b) a very small proportion of responses, with more of those with 20 years or less experience (4%) than 21 years and above (1.7%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with 20 years or less experience (9.5%) than 21 years and above (3.3%).

Item 90 (Inspectors are more qualified than teachers to identify the need for INSET programmes)

(a) a high proportion of responses, with more of those with 21 years and above experience (75%) than 20 years or less (64.8%) *agreed* that 'inspectors are more qualified than teachers to identify the need for INSET programmes'; (b) a small proportion of responses, with more of those with 20 years or less experience (16.5%) than 21 years and above (11.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 20 years or less experience (18.7%) than 21 years and above (13.3%).

Item 95 (Teachers attending INSET programmes should have teaching experience in the subject)

(a) a high proportion of responses, with more of those with 21 years and above experience (90.8%) than 20 years or less (79.3%) *agreed* that 'teachers attending INSET programmes should have teaching experience in the subject'; (b) a small

proportion of responses, with more of those with 20 years or less experience (11.6%) than 21 years and above (5.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 20 years or less experience (9.1%) than 21 years and above (3.4%).

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 58 (INSET programmes should enable teachers to carry out new duties)

(a) a high proportion of responses, with more of those with a degree qualification (84.3%) than diploma (79.7%) *agreed* that 'INSET programmes should enable teachers to carry out new duties'; (b) a small proportion of responses, with more of those with a diploma qualification (11.3%) than degree (8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of those with a diploma and degree qualification (9% and 7.8% respectively).

Item 61 (INSET programmes should help teachers to overcome deficits of initial training)

(a) a very high proportion of responses, with more of those with a degree qualification (92.2%) than diploma (85.4%) *agreed* that 'INSET programmes should help teachers to overcome deficits of initial training'; (b) a very small proportion of responses, with slightly more of those with a diploma qualification (4.3%) than degree (2.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma (10.3%) than degree qualification (5%).

Item 63 (INSET programmes should be centred on improving teaching methods)

(a) a high proportion of responses, with more of those with a diploma qualification (85.6%) than degree (80.4%) *agreed* that 'INSET programmes should be centred on improving teaching methods'; (b) a small proportion of responses, with more of those with a degree qualification (13.1%) than diploma (9.4%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of those with a diploma and degree qualification (5% and 6.5% respectively).

Item 65 (INSET programmes should enable teachers to cope with their professional tasks more successfully)

(a) a very high proportion of responses, with slightly more of those with a degree qualification (96.1%) than diploma (93%) *agreed* that 'INSET programmes should enable teachers to cope with their professional tasks more successfully'; (b) a very small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (1.4% and 2% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with a diploma (5.6%) than degree qualification (1.9%).

Item 67 (INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice)

(a) a very high proportion of responses, with slightly more of those with a degree qualification (89.9%) than diploma (85.7%) *agreed* that 'INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice'; (b) a very small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (3.4% and 3.2% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma (10.9%) than degree qualification (6.9%).

Item 72 (INSET programmes should be a continuing process)

(a) a high proportion of responses, with slightly more of those with a degree qualification (79.8%) than diploma (74.2%) *agreed* that 'INSET programmes should enable teachers to carry out new duties'; (b) a small proportion of responses, with more of those with a diploma qualification (15%) than degree (9.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of those with a diploma and degree qualification (10.8% and 10.9% respectively).

Item 78 (INSET programmes should provide opportunities for teachers to engage in a variety of activities)

(a) a high proportion of responses, with more of those with a diploma qualification (83.5%) than degree (76.9%) *agreed* that 'INSET programmes should provide opportunities for teachers to engage in a variety of activities'; (b) a very small

proportion of responses, with more of those with a degree qualification (9.1%) than diploma (4.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a degree qualification (14.1%) than diploma (11.8%).

Item 80 (INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion)

(a) a high proportion of responses, with more of those with a degree qualification (86.7%) than diploma (80.2%) *agreed* that 'INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion'; (b) a small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (5.4% and 6.7% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma (14.4%) than degree qualification (6.7%).

Item 83 (If teachers were involved in planning INSET programmes, their commitment to them would be greater)

(a) a very high proportion of responses, with more of those with a degree qualification (89.6%) than diploma (84%) *agreed* that 'if teachers were involved in planning INSET programmes, their commitment to them would be greater'; (b) a very small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (3.6% and 2.6% respectively) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma (12.4%) than degree qualification (7.8%).

Item 87 (Practical techniques are more useful than theory in INSET programmes)

(a) a very high proportion of responses, with more of those with a degree qualification (92.4%) than diploma (88.8%) *agreed* that 'practical techniques are more useful than theory in INSET programmes'; (b) a very small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (3.6% and 2.2% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with slightly more of those with a diploma (7.6%) than degree qualification (5.4%).

Item 92 (Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance)

(a) a very high proportion of responses, with more of those with a degree qualification (94.1%) than diploma (89.2%) *agreed* that 'teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance'; (b) a very small proportion of responses, with a fairly even spread of those with a diploma and degree qualification (2.9% and 2.6% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with a diploma (7.9%) than degree qualification (3.3%).

Item 94 (Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject)

(a) a moderate proportion of responses, with more of those with a diploma qualification (49%) than degree (42.4%) *agreed* that 'teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject'; (b) a moderate proportion of responses, with more of those with a degree qualification (41.1%) than diploma (30.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with a diploma (20.7%) than degree qualification (16.5%).

Main subject

When one reviews the specifics of the crosstabulated distributions for these rating scale items by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 70 (INSET programmes should focus on topics which teachers think are important)

(a) a very high proportion of responses, with more English language teachers (98.7%) than class teachers (94.4%), science (92.8%), social science (92.8%), Arabic language (92.7%), those who do not teach (88.6%), physical education (87.5%), and art (81.7%) *agreed* that 'INSET programmes should focus on topics which teachers think are important'; (b) a very low proportion of responses, with more art teachers (8.3%) than science (4.1%), physical education (2.5%), Arabic language (2.3%), those who do not teach (2.3%), social science (2.1%), class teachers (0%), and English language (0%)

disagreed with the statement; **(c)** a very small proportion of responses were *undecided*, with more physical education teachers (10%) and art (10%) than those who do not teach (9.1%), class teachers (5.6%), social science (5.2%), Arabic language (5.1%), science (3%), and English language (1.3%).

Item 74 (INSET programmes should be a high priority in the Libyan education system)

(a) a very high proportion of responses, with more physical education teachers (95.1%) than English language (92.1%), class teachers (89.2%), social science (88.6%), Arabic language (85.7%), art (85.2%), those who do not teach (83.3%) and science (81.2%) *agreed* that 'INSET programmes should be a high priority in the Libyan education system'; **(b)** a very low proportion of responses, with more of those who do not teach (9.5%) than art teachers (6.6%), science (5.5%), Arabic language (2.9%), social science (2.1%), class teachers (0%), English language (0%) and physical education (0%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more science teachers (13.3%) than Arabic language (11.4%), class teachers (10.8%), social science (9.3%), art (8.2%), English language (7.9%), those who do not teach (7.1%) and physical education teachers (4.9%).

Item 90 (Inspectors are more qualified than teachers to identify the need for INSET programmes)

(a) more physical education teachers (78%) than English language (72.4%), science (65.8%), social science (61.9%), Arabic language (61.6%), art (60.7%), class teachers (51.4%) and those who do not teach (47.7%) *agreed* that 'inspectors are more qualified than teachers to identify the need for INSET programmes'; **(b)** more of those who do not teach (25%) than class teachers (24.3%), social science (21.1%), art (19.7%), English language (17.1%), science (15.6%), Arabic language (15.3%) and physical education (9.8%) *disagreed* with the statement; **(c)** more of those who do not teach (27.3%) than class teachers (24.3%), Arabic language (23.2%), art (19.7%), science (18.6%), social science (17%), physical education (12.2%) and English language (10.5%) who were *undecided*.

Item 94 (Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject)

(a) more physical education teachers (63.4%) than art (55.7%), Arabic language (48.9%), social science (47.7%), those who do not teach (44.2%), science (43.9%), class teachers (43.2%) and English language (38.2%) *agreed* that 'teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject'; (b) more English language teachers (48.7%) than those who do not teach (37.2%), science (36.7%), class teachers (35.1%), Arabic language (34.7%), social science (33.2%), art (24.6%) and physical education (19.5%) *disagreed* with the statement; (c) a small proportion of responses, with more of class teachers (21.6%) than art (19.7%), science (19.4%), social science (19.2%), those who do not teach (18.6%), physical education (17.1%), Arabic language (16.5%) and English language (13.2%) who were *undecided*.

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 58 (INSET programmes should enable teachers to carry out new duties)

(a) a high proportion of responses, with more of secondary education staff (84.3%) than basic education staff (79.6%) *agreed* that 'INSET programmes should enable teachers to carry out new duties'; (b) a small proportion of responses, with more of basic education staff (12%) than secondary education staff (7.8%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (8.4% and 7.8% respectively).

Item 61 (INSET programmes should help teachers to overcome deficits of initial training)

(a) a very high proportion of responses, with more of secondary education staff (91.5%) than basic education staff (84.7%) *agreed* that 'INSET programmes should help teachers to overcome deficits of initial training'; (b) a very small proportion of responses, with slightly more of basic education staff (4.8%) than secondary education staff (2.8%) *disagreed* with the statement; (c) a small proportion of responses were

undecided, with more basic education staff (10.5%) than secondary education staff (5.7%).

Item 65 (INSET programmes should enable teachers to cope with their professional tasks more successfully)

(a) a very high proportion of responses, with slightly more of secondary education staff (96.2%) than basic education staff (92.4%) *agreed* that 'INSET programmes should enable teachers to cope with their professional tasks more successfully'; (b) a very small proportion of responses, with a fairly even spread of basic and secondary education staff (1.7% and 2.1% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of basic education staff (5.9%) than secondary education staff (1.7%).

Item 70 (INSET programmes should focus on topics which teachers think are important)

(a) a very high proportion of responses, with slightly more of secondary education staff (94%) than basic education staff (90.6%) *agreed* that 'INSET programmes should focus on topics which teachers think are important'; (b) a very small proportion of responses, with a fairly even spread of basic and secondary education staff (3.3% and 2.8% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of basic education staff (6.3%) than secondary education staff (3.2%).

Item 72 (INSET programmes should be a continuing process)

(a) a high proportion of responses, with more of secondary education staff (78.6%) than basic education staff (73.5%) *agreed* that 'INSET programmes should be a continuing process'; (b) a small proportion of responses, with more of basic education staff (15.4%) than secondary education staff (10.2%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (11.1% and 11.2% respectively).

Item 75. (INSET programmes should focus on improving students' achievements/ standards)

(a) a very high proportion of responses, with slightly more of secondary education staff (97.7%) than basic education staff (95%) *agreed* that 'INSET programmes should

focus on improving students' achievements/standards'; **(b)** a very small proportion of responses, with a fairly even spread of basic and secondary education staff (2.3% and 1.5% respectively) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with more of basic education staff (2.7%) than secondary education staff (0.8%).

Item 78 (INSET programmes should provide opportunities for teachers to engage in a variety of activities)

(a) a high proportion of responses, with more of basic education staff (81.9%) than secondary education staff (77.1%) *agreed* that 'INSET programmes should provide opportunities for teachers to engage in a variety of activities'; **(b)** a very small proportion of responses, with more of secondary education staff (9.3%) than basic education staff (5.5%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (12.6% and 13.6% respectively).

Item 80 (INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion)

(a) a high proportion of responses, with more of secondary education staff (86.7%) than basic education staff (79.2%) *agreed* that 'INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion'; **(b)** a very small proportion of responses, with a fairly even spread of basic and secondary education staff (6.1% and 6.4% respectively) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of basic education staff (14.7%) than secondary education staff (7%).

Item 81 (INSET programmes should benefit the whole school)

(a) a very high proportion of responses, with slightly more of secondary education staff (94.9%) than basic education staff (91%) *agreed* that 'INSET programmes should benefit the whole school'; **(b)** a very small proportion of responses, with a fairly even spread of basic and secondary education staff (2.5% and 1.3% respectively) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with more of basic education staff (6.5%) than secondary education staff (3.8%).

Item 87 (Practical techniques are more useful than theory in INSET programmes)

(a) a very high proportion of responses, with more of secondary education staff (92.4%) than basic education staff (88%) *agreed* that 'practical techniques are more useful than theory in INSET programmes'; (b) a very small proportion of responses, with a fairly even spread of basic and secondary education staff (3.8% and 2.5% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of basic education staff (8.2%) than secondary education staff (5.1%).

Item 91 (In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes)

(a) a high proportion of responses, with more of secondary education staff (86%) than basic education staff (80.1%) *agreed* that 'in every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes'; (b) a small proportion of responses, with more of basic education staff (11.3%) than secondary education staff (7.8%) *disagreed* with the statement; (c) a small proportion of responses, with slightly more of basic education staff (8.6%) than secondary education staff (6.1%) *disagreed* with the statement.

Item 92 (Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance)

(a) a very high proportion of responses, with more of secondary education staff (94.3%) than basic education staff (88.3%) *agreed* that 'teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance'; (b) a very small proportion of responses, with a fairly even spread of basic and secondary education staff (3.1% and 2.8% respectively) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of basic education staff (8.6%) than secondary education staff (3%).

Item 94 (Teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject)

(a) a moderate proportion of responses, with more of basic education staff (49.8%) than secondary education staff (43%) *agreed* that 'teachers attending INSET programmes should have a degree, not necessarily in the appropriate subject'; (b) a

moderate proportion of responses, with more of secondary education staff (39.8%) than basic education staff (30.7%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with a fairly even spread of basic and secondary education staff (19.5% and 17.2% respectively).

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 58 (INSET programmes should enable teachers to carry out new duties)

(a) a high proportion of responses, with more of those with 26 students or over (83.6%) and those who do not teach (82.4%) than those with 25 students or less (77.3%) *agreed* that 'INSET programmes should enable teachers to carry out new duties'; (b) a small proportion of responses, with more of those with 25 or less students (15.6%) than those with 26 or over (8.3%) and those who do not teach (5.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who do not teach (11.8%) than those with 26 students or over (8.1%) and those with 25 or less students (7%).

Item 61 (INSET programmes should help teachers to overcome deficits of initial training)

(a) a very high proportion of responses, with more of those with 26 students or over (90.8%) than those who do not teach (86.3%) and those with 25 students or less (80.4%) *agreed* that 'INSET programmes should help teachers to overcome deficits of initial training'; (b) a very small proportion of responses, with more of those who do not teach (5.9%) than those with 25 students or less (5.5%) and those with 26 students or over (3.1%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 25 or less students (14.1%) than those who do not teach (7.8%) and those with 26 students or over (6.1%).

Item 65 (INSET programmes should enable teachers to cope with their professional tasks more successfully)

(a) a very high proportion of responses, with slightly more of those with 26 students or over (95.8%) than those who do not teach (94.1%) and those with 25 students or less

(89.8%) *agreed* that 'INSET programmes should enable teachers to cope with their professional tasks more successfully'; (b) a very small proportion of responses, with 25 or less students (3.5%) than those who do not teach (2%) and those with 26 or over (1.3%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with 25 or less students (6.6%) than those who do not teach (3.9%) and those with 26 students or over (2.9%).

Item 67 (INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice)

(a) a very high proportion of responses, with slightly more of those with 26 students or over (89.7%) and those who do not teach (88.2%) than those with 25 students or less (82.7%) *agreed* that 'INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice'; (b) a very small proportion of responses, with more of those with 25 or less students (5.1%) than those who do not teach (3.9%) and those with 26 or over (2.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 25 or less students (12.2%) than those who do not teach (7.8%) and those with 26 students or over (7.5%).

Item 72 (INSET programmes should be a continuing process)

(a) a high proportion of responses, with more of those who do not teach (78.4%) than those with 26 students or over (77.9%) and those with 25 students or less (70.5%) *agreed* that 'INSET programmes should be a continuing process'; (b) a small proportion of responses, with more of those with 25 or less students (17.3%) than those who do not teach (13.7%) and those with 26 or over (11.1%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 25 or less students (12.2%) than those with 26 students or over (11.1%) and those who do not teach (7.8%).

Item 75 (INSET programmes should focus on improving students' achievements/standards)

(a) a very high proportion of responses, with slightly more of those with 26 students or over (97.4%) and those who do not teach (96%) than those with 25 students or less (93.4%) *agreed* that 'INSET programmes should focus on improving students'

achievements/standards'; **(b)** a very small proportion of responses, with slightly more of those with 25 or less students (3.5%) than those who do not teach (2%) and those with 26 or over (1.3%) *disagreed* with the statement; **(c)** a very small proportion of responses, with slightly more of those with 25 or less students (3.1%) than those who do not teach (2%) and those with 26 or over (1.3%) *disagreed* with the statement.

Item 77 (INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems)

(a) a very high proportion of responses, with slightly more of those with 26 students or over (95.9%) and those who do not teach (94.1%) than those with 25 students or less (91.8%) *agreed* that 'INSET programmes should provide opportunities for teachers to work in a collegial fashion in the solution of problems'; **(b)** a very small proportion of responses, with more of those who do not teach (3.9%) than those with 25 or less students (3.5%) and those with 26 or over (1.6%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with more of those with 25 or less students (4.7%) than those with 26 students or over (2.5%) and those who do not teach (2%).

Item 80 (INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion)

(a) a high proportion of responses, with more of those with 26 students or over (85.2%) than those with 25 students or less (77.9%) and those who do not teach (74.5%) *agreed* that 'INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion'; **(b)** a very small proportion of responses, with slightly more of those with 25 or less students (8.2%) than those who do not teach (7.5%) and those with 26 or over (5.4%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of those who do not teach (17.6%) than those with 25 or less students (14.1%) and those with 26 students or over (9.4%).

Item 82 (INSET programmes should induct new teachers into their schools and the profession)

(a) a very high proportion of responses, with slightly more of those with 26 students or over (96.9%) and those who do not teach (96.1%) than those with 25 students or less

(92.2%) *agreed* that 'INSET programmes should induct new teachers into their schools and the profession'; (b) a very small proportion of responses, with more of those with 25 or less students (2.3%) and those who do not teach (2%) than those with 26 or over (0.7%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with 25 or less students (5.5%) than those with 26 students or over (2.3%) and those who do not teach (2%).

Item 83 (If teachers were involved in planning INSET programmes, their commitment to them would be greater)

(a) a very high proportion of responses, with more of those with 26 students or over (87.5%) than those who do not teach (82.4%) and those with 25 students or less (81.3%) *agreed* that 'if teachers were involved in planning INSET programmes, their commitment to them would be greater'; (b) a very small proportion of responses, with a fairly spread of those with 25 or less students, 26 or over and those who do not teach (3.9%, 3.1% and 3.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those with 25 or less students (14.8%) than those who do not teach (13.7%) and those with 26 students or over (9.4%).

Item 86 (The head teacher should be responsible for INSET in his/her school)

(a) a high proportion of responses, with more of those with 25 students or less (85.9%) than with 26 students or over (83.1%) and those who do not teach (70.6%) *agreed* that 'the head teacher should be responsible for INSET in his/her school'; (b) a small proportion of responses, with more of those who do not teach (15.7%) than those with 26 or over (9%) and those with 25 or less students (8.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who do not teach (113.7%) than those with 26 students or over (7.8%) and those with 25 or less students (5.5%).

Item 88 (Teachers should be released during school time to attend INSET programmes where necessary)

(a) a high proportion of responses, with more of those with 26 students or over (70.6%) than those with 25 students or less (62%) and those who do not teach (58.8%) *agreed* that 'teachers should be released during school time to attend INSET programmes where necessary'; (b) a small proportion of responses, with more of those

with 25 or less students (24.3%) than those who do not teach (23.5%) and those with 26 or over (17.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who do not teach (17.6%) than those with 25 or less students (13.7%) and those with 26 students or over (11.5%).

Item 97 (The overall performance of the teacher should be taken into consideration in participation of INSET programmes)

(a) a high proportion of responses, with more of those with 26 students or over (85.4%) than those who do not teach (78.4%) and those with 25 students or less (76.6%) *agreed* that 'the overall performance of the teacher should be taken into consideration in participation of INSET programmes'; (b) a small proportion of responses, with more of those who do not teach (9.8%) than those with 25 or less students (7.4%) and those with 26 students or over (5.5%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those with 25 or less students (16%) than those who do not teach (11.8%) and those with 26 or over (9%).

Main level of class (es) taught in basic education (MLCTBE)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by MLCTBE the following results emerge (percentages indicate the proportion of the total number of MLCTBE categories):

Item 70 (INSET programmes should focus on topics which teachers think are important)

(a) a very high proportion of responses, with more of those who teach class (es) seven to ninth (93.1%) and who do not teach (92.3%) than those who teach class (es) first to sixth (86.7%) and whose teaching is equally distributed (71.9%) *agreed* that 'INSET programmes should focus on topics which teachers think are important'; (b) a very small proportion of responses, with more of those whose teaching groups are equally distributed (9.4%) than those who teach first to sixth (5.6%), those who do not teach (2.6%) and those who teach seven to ninth (2.4%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those whose teaching groups are equally distributed (18.8%) than those who teach first to sixth (7.8%), those who do not teach (5.1%) and those who teach seven to ninth (4.5%).

Item 90 (Inspectors are more qualified than teachers to identify the need for INSET programmes)

(a) more of those who teach class (es) seven to ninth (69.6%) than those who teach class (es) first to sixth (56%), whose teaching is equally distributed (54.5%) and those who do not teach (51.3%) *agreed* that 'inspectors are more qualified than teachers to identify the need for INSET programmes'; (b) a small proportion of responses, with more of those who teach class (es) first to sixth (23.1%) than those who do not teach (17.9%), those who teach seven to ninth (14.6%) and those whose teaching groups are equally distributed (12.1%) *disagreed* with the statement; (c) more of those whose teaching groups are equally distributed (33.3%) than those who do not teach (30.8%), those who teach first to sixth (20.9%) and those who teach seven to ninth (15.9%) a small proportion of responses were *undecided*, with.

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 61 (INSET programmes should help teachers to overcome deficits of initial training)

(a) a very high proportion of responses, with more of those who work in an urban area (90.4%) than rural (84.2%) and remote (79.7%) *agreed* that 'INSET programmes should help teachers to overcome deficits of initial training'; (b) a very small proportion of responses, with more of those who work in a remote area (5.8%) than rural (4.2%) and urban (3.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (14.5%) than rural (11.7%) and urban (6.2%).

Item 63 (INSET programmes should be centred on improving teaching methods)

(a) a very high proportion of responses, with more of those who work in a remote area (92.8%) than urban (83.6%) and rural (79.2%) *agreed* that 'INSET programmes should be centred on improving teaching methods'; (b) a small proportion of responses, with more of those who work in a rural area (11.7%) and urban (11.4%) than remote (4.3%) *disagreed* with the statement; (c) a very small proportion of

responses were *undecided*, with more of those who work in a rural area (9.1%) than urban (5%) and remote (2.9%).

Item 65 (INSET programmes should enable teachers to cope with their professional tasks more successfully)

(a) a very high proportion of responses, with more of those who work in an urban area (95.3%) and rural (95.1%) than remote (81.2%) *agreed* that 'INSET programmes should enable teachers to cope with their professional tasks more successfully'; (b) a very small proportion of responses, with more of those who work in a remote area (5.8%) than urban (1.8%) and rural (1.1%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (13%) than rural (3.8%) and urban (2.9%).

Item 67 (INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice)

(a) a very high proportion of responses, with more of those who work in an urban area (90.8%) and remote (89.9%) than rural (80.2%) *agreed* that 'INSET programmes should focus on altering teachers' attitudes and beliefs regarding good teaching practice'; (b) a very small proportion of responses, with slightly more of those with who work in a rural area (4.6%) than urban (3.1%) and remote (2.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a rural area (15.3%) than remote (7.2%) and urban (6.1%).

Item 68 (INSET programmes should improve class management skills)

(a) a very high proportion of responses, with more of those who work in a remote area (89.7%) and urban (88.2%) than rural (81.3%) *agreed* that 'INSET programmes should improve class management skills'; (b) a very small proportion of responses, with more of those who work in a rural area (5.3%) than remote (4.4%) and urban (3.8%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a rural area (13.4%) than urban (8%) and remote (5.9%).

Item 72 (INSET programmes should be a continuing process)

(a) a high proportion of responses, with more of those who work in an urban area (78.9%) than remote (71%) and rural (70.1%) *agreed* that 'INSET programmes should

be a continuing process'; **(b)** a small proportion of responses, with more of those who work in a remote area (15.9%) and rural (15.9%) than urban (11.2%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of those who work in a rural area (14%) and remote (13%) than urban (9.9%).

Item 80 (INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion)

(a) a high proportion of responses, with more of those who work in an urban area (86%) than remote (76.8%) and rural (76.2%) *agreed* that 'INSET programmes should not be conducted in a formal way, like college/ university courses, but in a more informal fashion'; **(b)** a very small proportion of responses, with more of those who work in a remote area (7.2%) and rural (7.2%) than urban (5.6%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of those who work in a rural area (16.6%) and remote (15.9%) than urban (8.3%).

Item 82 (INSET programmes should induct new teachers into their schools and the profession)

(a) a very high proportion of responses, with more of those who work in an urban area (96.8%) than rural (94.4%) and remote (91.3%) *agreed* that 'INSET programmes should induct new teachers into their schools and the profession'; **(b)** a very small proportion of responses, with more of those who work in a remote area (2.9%) than rural (1.9%) and urban (0.8%) *disagreed* with the statement; **(c)** a very small proportion of responses were *undecided*, with more of those who work in a remote area (5.8%) than rural (3.8%) and urban (2.4%).

Item 83 (If teachers were involved in planning INSET programmes, their commitment to them would be greater)

(a) a high proportion of responses, with more of those who work in an urban area (88.5%) than rural (81.6%) and remote (75.4%) *agreed* that 'if teachers were involved in planning INSET programmes, their commitment to them would be greater'; **(b)** a very small proportion of responses, with more of those who work in a rural area (5.3%) than remote (2.9%) and urban (2.6%) *disagreed* with the statement; **(c)** a small proportion of responses were *undecided*, with more of those who work in a remote area (21.7%) than rural (13.2%) and urban (9%).

Item 85 (There should be incentives for attending INSET programmes to encourage teachers' attendance)

(a) a very high proportion of responses, with more of those who work in an urban area (94.2%) than rural (91.7%) and remote (84.1%) *agreed* that 'there should be incentives for attending INSET programmes to encourage teachers' attendance'; (b) a very small proportion of responses, with more of those who work in a remote area (8.7%) than rural (3.8%) and urban (3.5%) *disagreed* with the statement; (c) a very small proportion of responses were *undecided*, with more of those who work in a remote area (7.2%) than rural (4.5%) and urban (2.3%).

Item 87 (Practical techniques are more useful than theory in INSET programmes)

(a) a very high proportion of responses, with more of those who work in an urban area (91.7%) than rural (89.1%) and remote (79.7%) *agreed* that 'practical techniques are more useful than theory in INSET programmes'; (b) a very small proportion of responses, with more of those who work in a remote area (7.2%) than urban (3%) and rural (2.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (13%) than rural (8.3%) and urban (5.3%).

Item 88 (Teachers should be released during school time to attend INSET programmes where necessary)

(a) a high proportion of responses, with more of those who work in an urban area (70.7%) than remote (64.7%) and rural (61.3%) *agreed* that 'teachers should be released during school time to attend INSET programmes where necessary'; (b) a small proportion of responses, with more of those who work in a remote area (22.1%) than rural (21.8%) and urban (19%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a rural area (16.9%) than remote (13.2%) and urban (10.3%).

Item 89 (There should be use of educational technology in INSET programmes)

(a) a very high proportion of responses, with more of those who work in an rural area (89.2%) than remote (82.6%) and rural (82.1%) *agreed* that 'there should be use of educational technology in INSET programmes'; (b) a very small proportion of responses, with more of those who work in a rural area (5.7%) than remote (4.3%) and

urban (2.9%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (13%) than rural (12.2%) and urban (7.9%).

Item 91 (In every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes)

(a) a high proportion of responses, with more of those who work in an urban area (84.8%) than rural (80.8%) and remote (73.9%) *agreed* that 'in every school, there should be a professional teacher/tutor responsible for co-ordinating INSET programmes'; (b) a small proportion of responses, with more of those who work in a remote area (14.5%) than rural (11.7%) and urban (8.3%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (11.6%) than rural (7.5%) and urban (6.8%).

Item 92 (Teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance)

(a) a very high proportion of responses, with more of those who work in an urban area (92.6%) than rural (90.2%) and remote (82.6%) *agreed* that 'teachers should have the opportunity to select the kind of INSET programmes which they feel will strengthen their professional performance'; (b) a very small proportion of responses, with more of those who work in a remote area (7.2%) than rural (2.6%) and urban (2.4%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (10.1%) than rural (7.2%) and urban (5%).

Item 97 (The overall performance of the teacher should be taken into consideration in participation of INSET programmes)

(a) high proportion of responses, with more of those who work in an urban area (84.8%) than rural (80.5%) and remote (72.5%) *agreed* that 'the overall performance of the teacher should be taken into consideration in participation of INSET programmes'; (b) a small proportion of responses, with more of those who work in a remote area (10.1%) than urban (6.1%) and rural (5.6%) *disagreed* with the statement; (c) a small proportion of responses were *undecided*, with more of those who work in a remote area (17.4%) than rural (13.9%) and urban (9.1%).

APPENDIX

7

CROSSTABULATED BIOGRAPHICAL DETAILS BY TEACHERS' PREFERENCES FOR ATTENDANCE AT INSET COURSES

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning teachers' preferences for attendance at INSET courses.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 98 (During school time)

(a) more females (34.3%) than males (25.3%) reported that they *most preferred* for attendance at INSET courses 'during school time'; (b) there is an even spread of males and females (13% and 12.9% respectively) whose response was one away from the *most preferred* category for attendance at INSET courses 'during school time'; (c) there is an even spread of males and females (9.2% and 7.8% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses 'during school time'; (d) there is an even spread of males and females (13% and 12.6% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses 'during school time'; (e) more males (39.5%) than females (32.5%) reported that they *least preferred* for attendance at INSET courses 'during school time'.

Item 99 (Evenings)

(a) slightly more males (17.3%) than females (13.4%) reported that they *most preferred* for attendance at INSET courses 'evenings'; (b) slightly more males (16.8%) than females (13.4%) whose response was one away from the *most preferred* category for attendance at INSET courses 'evenings'; (c) there is an even spread of males and females (11.2% and 12.3% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses 'evenings'; (d) there is an even spread of males and females (12.5% and 14.9% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses 'evenings'; (e) slightly more females (46%) than males (42.1%) reported that they *least preferred* for attendance at INSET courses 'evenings'.

Item 100 (Weekends)

(a) more females (7.8%) than males (3.1%) reported that they *most preferred* for attendance at INSET courses 'weekends'; (b) slightly more females (8.5%) than males (5.6%) whose response was one away from the *most preferred* category for attendance at INSET courses 'weekends'; (c) there is an even spread of males and females (7.9% and 9.5% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses 'weekends'; (d) there is an equal spread (15.1%) of males and females whose response was one away from the *least preferred* category for attendance at INSET courses 'weekends'; (e) more males (68.2%) than females (59.1%) reported that they *least preferred* for attendance at INSET courses 'weekends'.

Item 101 (School vacations)

(a) more females (15.2%) than males (10%) reported that they *most preferred* for attendance at INSET courses 'school vacations'; (b) there is an even spread of males and females (14.1% and 14.2% respectively) whose response was one away from the *most preferred* category for attendance at INSET courses 'school vacations'; (c) slightly more females (10.7%) than males (7.4%) whose response was midway between *most and least preferred* category for attendance at INSET courses 'school vacations'; (d) there is an even spread of males and females (12% and 12.6% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses 'school vacations'; (e) more males (56.5%) than females

(47.3%) reported that they *least preferred* for attendance at INSET courses ‘school vacations’.

Item 102 (Summer holidays)

(a) more females (27.8%) than males (19.2%) reported that they *most preferred* for attendance at INSET courses ‘summer holidays’; (b) there is an even spread of males and females (18.7% and 17.9% respectively) whose response was one away from the *most preferred* category for attendance at INSET courses ‘summer holidays’; (c) there is an even spread of males and females (7.4% and 6.8% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘summer holidays’; (d) there is an even spread of males and females (7.7% and 7.5% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses ‘summer holidays’; (e) more males (47.1%) than females (40%) reported that they *least preferred* for attendance at INSET courses ‘summer holidays’.

Age group

When one reviews the specifics of the crosstabulated distributions for this rating scale item by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 103 (A combination of the times listed in this group)

(a) more of those aged 41 years and above (31.4%) than 40 years or less (25.2%) reported that they *most preferred* for attendance at INSET courses ‘a combination of the times listed in this group’; (b) more of those aged 41 years and above (36.4%) than 40 years or less (31.7%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (c) more of those aged 40 years or less (17.5%) than 41 years and above (12.7%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (d) there is an even spread of those aged 40 years or less and 41 years and above (7.5% and 6.8% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (e) more of those aged 40 years or less (18.1%) than 41 years and above

(12.7%) reported that they *least preferred* for attendance at INSET courses ‘a combination of the times listed in this group’.

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 101 (School vacations)

(a) more of those with 20 years or less experience (13.9%) than 21 years and above (8.4%) reported that they *most preferred* for attendance at INSET courses ‘school vacations’; (b) there is an even spread of those with 20 years or less experience and 21 years or above (14.3% and 13.4% respectively) whose response was one away from the *most preferred* category for attendance at INSET courses ‘school vacations’; (c) there is an even spread of those with 20 years or less experience and 21 years or above (9.7% and 7.6% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘school vacations’; (d) there is an even spread of those with 20 years or less experience and 21 years or above (12.5% and 11.8% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses ‘school vacations’; (e) more of those with 21 years and above experience (58.8%) than 20 years or less (49.5%) reported that they *least preferred* for attendance at INSET courses ‘school vacations’.

Item 103 (A combination of the times listed in this group)

(a) more of those with 21 years and above experience (31.9%) than 20 years or less (25.1%) reported that they *most preferred* for attendance at INSET courses ‘a combination of the times listed in this group’; (b) more of those with 21 years and above experience (37%) than 20 years or less (31.6%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (c) slightly more of those with 20 years or less experience (17.3%) than 21 years and above (14.3%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (d) there is an even spread of those with 20 years or less experience and 21 years or above (7.7% and 5.9% respectively) whose

response was one away from the *least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (e) more of those with 20 years or less experience (18.3%) than 21 years and above (10.9%) reported that they *least preferred* for attendance at INSET courses ‘a combination of the times listed in this group’.

Qualification

When one reviews the specifics of the crosstabulated distributions for this rating scale item by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 103 (A combination of the times listed in this group)

(a) more of those with a degree qualification (28.8%) than diploma (22.7%) reported that they *most preferred* for attendance at INSET courses ‘a combination of the times listed in this group’; (b) slightly more of those with a degree qualification (34.1%) than diploma (30.5%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (c) more of those with a diploma qualification (20.5%) than degree (13.5%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (d) there is an even spread of those with a diploma and degree qualification (8.1% and 6.7% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (e) there is an even spread of those with a diploma and degree qualification (18.2% and 16.9% respectively) reported that they *least preferred* for attendance at INSET courses ‘a combination of the times listed in this group’.

Main subject

When one reviews the specifics of the crosstabulated distributions for these rating scale items by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 98 (During school time)

(a) more social science teachers (39.2%) than class teacher (35.1%), Arabic language (33.3%), English language (32.9%), science (31.8%), those who do not teach (22.7%),

physical education (22%) and art (18%) reported that they *most preferred* for attendance at INSET courses ‘during school time’; **(b)** more physical education teachers (22%) than English language (15.8%), science (13.7%), social science (12.4%), art (11.5%), class teacher (10.8%), Arabic language (10.2%) and those who do not teach (2.3%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘during school time’; **(c)** more physical education teachers (12.2%) than social science (9.3%), those who do not teach (9.1%), science (8.8%), art (8.2%), Arabic language (6.2%), class teacher (5.4%) and English language (5.3%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘during school time’; **(d)** more of those who do not teach (27.3%) than class teacher (21.6%), art (21.3%), science (12.9%), Arabic language (10.2%), social science (9.8%), English language (7.9%) and physical education (7.3%) whose response was one away from the *least preferred* category for attendance at INSET courses ‘during school time’; **(e)** more art teachers (41%) than Arabic language (40.1%), those who do not teach (38.6%), English language (38.2%), physical education (36.6%), science (32.9%), social science (29.4%) and class teacher (27%) reported that they *least preferred* for attendance at INSET courses ‘during school time’.

Item 99 (Evenings)

(a) more physical education teachers (24.4%) than art (16.4%), Arabic language (15.8%), English language (14.5%), those who do not teach (13.6%), class teacher (13.5%), science (13.2%) and social science (12.9%) reported that they *most preferred* for attendance at INSET courses ‘evenings’; **(b)** more physical education teachers (26.8%) than art (24.6%), class teacher (18.9%), those who do not teach (15.9%), English language (14.5%), social science (14.4%), Arabic language (11.9%) and science (11.5%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘evenings’; **(c)** more art teachers (14.8%) than science (14.3%), Arabic language (13.6%), social science (10.8%), physical education (9.8%), those who do not teach (9.1%), class teacher (8.1%) and English language (5.3%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘evenings’; **(d)** more class teachers (16.2%) than those who do not teach (15.9%), social science (15.5%), science (14.3%), Arabic language (13%), physical education (12.2%), art (11.5%) and English language (10.5%) and whose

response was one away from the *least preferred* category for attendance at INSET courses ‘evenings’; (e) more English language teachers (55.3%) than science (46.7%), social science (46.4%), Arabic language (45.8%), those who do not teach (45.5%), class teacher (43.2%), art (32.8%) and physical education (26.8%) reported that they *least preferred* for attendance at INSET courses ‘evenings’.

Institution

When one reviews the specifics of the crosstabulated distributions for this rating scale item by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 103 (A combination of the times listed in this group)

(a) more secondary education staff (28.2%) than basic education staff (21.8%) reported that they *most preferred* for attendance at INSET courses ‘a combination of the times listed in this group’; (b) slightly more secondary education staff (35.7%) than basic education staff (30.1%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (c) more basic education staff (21.1%) than secondary education staff (12.3%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (d) there is an even spread of basic and secondary education staff (8% and 7% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses ‘a combination of the times listed in this group’; (e) slightly more basic education staff (19%) than secondary education staff (16.8%) reported that they *least preferred* for attendance at INSET courses ‘a combination of the times listed in this group’.

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for this rating scale item by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 102 (Summer holidays)

(a) more of those who do not teach (27.5%) and those with 25 students or less (27.2%) than those with 26 students or over (23%) reported that they *most preferred* for

attendance at INSET courses ‘summer holidays’; **(b)** there is an even spread of those with 25 or less, 26 or over students and those who do not teach (22%, 16.7% and 13.7% respectively) whose response was one away from the *most preferred* category for attendance at INSET courses ‘summer holidays’; **(c)** there is an even spread of those with 25 or less, 26 or over students and those who do not teach (8.3%, 7.1% and 7.8% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘summer holidays’; **(d)** more of those who do not teach (11.8%) than those with 26 students or over (7.7%) and those with 25 or less (5.1%) whose response was one away from the *least preferred* category for attendance at INSET courses ‘summer holidays’; **(e)** more of those with 26 students or over (45.4%) than those who do not teach (39.2%) and those with 25 or less (37.4%) reported that they *least preferred* for attendance at INSET courses ‘summer holidays’.

Main level of class (es) taught in basic education (MLCTBE)

When one reviews the specifics of the crosstabulated distributions for this rating scale item by MLCTBE the following results emerge (percentages indicate the proportion of the total number of MLCTBE categories):

Item 102 (Summer holidays)

(a) more of those whose teaching is equally distributed (36.4%) than those who do not teach (30.8%), those who teach class (es) first to sixth (24.2%) and seven to ninth (23.4%) reported that they *most preferred* for attendance at INSET courses ‘summer holidays’; **(b)** more of those whose teaching groups are equally distributed (30.3%) than those who teach first to sixth (23.1%), those who do not teach (17.9%) and seven to ninth (16%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘summer holidays’; **(c)** there is an even spread of those who teach class (es) first to sixth, seven to ninth, equally distributed and those who do not teach (7.7%, 7.4%, 6.1 and 5.1% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘summer holidays’; **(d)** more of those who do not teach (12.8%) than those who teach seven to ninth (6.9%), first to sixth (5.5%) and those whose teaching groups are equally distributed (0%) whose response was one away from the *least preferred* category for attendance at INSET courses ‘summer holidays’; **(e)** more of those who teach seven to ninth (46.3%) than first to sixth (39.6%), those who do not teach (33.3%) and those

whose teaching groups are equally distributed (27.3%) reported that they *least preferred* for attendance at INSET courses ‘summer holidays’.

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 101 (School vacations)

(a) more of those who work in a rural area (16.9%) than urban (12.2%) and remote (10.3%) reported that they *most preferred* for attendance at INSET courses ‘school vacations’; (b) there is an even spread of those who work in an urban, rural and remote areas (14.4%, 14.3% and 13.2% respectively) whose response was one away from the *most preferred* category for attendance at INSET courses ‘school vacations’; (c) more of those who work in a rural area (12.4%) than urban (8.5%) and remote (7.4%) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘school vacations’; (d) there is an even spread of those who work in an urban, rural and remote areas (12.1%, 12% and 10.3% respectively) whose response was one away from the *least preferred* category for attendance at INSET courses ‘school vacations’; (e) more of those who work in a remote area (58.8%) than urban (52.8%) and rural (44.4%) reported that they *least preferred* for attendance at INSET courses ‘school vacations’.

Item 102 (Summer holidays)

(a) more of those who work in a remote area (36.2%) than urban (23.6%) and rural (23.5%) reported that they *most preferred* for attendance at INSET courses ‘summer holidays’; (b) more of those who work in a rural area (23.1%) than remote (17.4%) and urban (16%) whose response was one away from the *most preferred* category for attendance at INSET courses ‘summer holidays’; (c) there is an even spread of those who work in an urban, rural and remote areas (7%, 8.3% and 8.7% respectively) whose response was midway between *most and least preferred* category for attendance at INSET courses ‘summer holidays’; (d) more of those who work in an urban area (7.8%) and rural (7.2%) than remote (1.4%) whose response was one away from the *least preferred* category for attendance at INSET courses ‘summer holidays’; (e) more

of those who work in an urban area (45.7%) than rural (37.9%) and remote (36.2%) reported that they *least preferred* for attendance at INSET courses 'summer holidays'.

APPENDIX

8

CROSSTABULATED BIOGRAPHICAL DETAILS BY TEACHERS' PREFERENCES FOR TYPES OF INSET COURSES

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning teachers' preferences for types of INSET courses.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 105 (Long-award-bearing courses)

(a) more males (38%) than females (29.4%) reported that they *most preferred* for types of INSET 'long-award-bearing courses'; (b) there is an even spread of males and females (16.8% and 19.2% respectively) whose response was one away from the *most preferred* category for types of INSET 'long-award-bearing courses'; (c) there is an even spread of males and females (9.7% and 7.2% respectively) whose response was midway between *most and least preferred* category for types of INSET 'long-award-bearing courses'; (d) more females (12.9%) than males (7.1%) whose response was one away from the *least preferred* category for types of INSET 'long-award-bearing courses'; (e) more females (31.3%) than males (28.3%) reported that they *least preferred* for types of INSET 'long-award-bearing courses'.

Item 107 (Short non-award-bearing courses)

(a) slightly more females (15.9%) than males (11.6%) reported that they *most preferred* for types of INSET 'short non-award-bearing courses'; (b) more females (15.6%) than males (10.3%) whose response was one away from the *most preferred* category for types of INSET 'short non-award-bearing courses'; (c) there is an even spread of males and females (13.4% and 12.9% respectively) whose response was midway between *most and least preferred* category for types of INSET 'short non-award-bearing courses'; (d) there is an even spread of males and females (13.9% and 14.9% respectively) whose response was one away from the *least preferred* category for types of INSET 'short non-award-bearing courses'; (e) more males (50.8%) than females (40.7%) reported that they *least preferred* for types of INSET 'short non-award-bearing courses'.

Item 110 (A combination of the types of courses listed in this group)

(a) more females (32.7%) than males (26.8%) reported that they *most preferred* for types of INSET 'a combination of the types of courses listed in this group'; (b) there is an even spread of males and females (32.1% and 34.7% respectively) whose response was one away from the *most preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (c) slightly more males (18.4%) than females (15.4%) whose response was midway between *most and least preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (d) there is an even spread of males and females (6.9% and 5.8% respectively) whose response was one away from the *least preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (e) slightly more males (15.8%) than females (11.3%) reported that they *least preferred* for types of INSET 'a combination of the types of courses listed in this group'.

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 105 (Long-award-bearing course)

(a) more non school staff (43.2%) than school staff (31.3%) reported that they *most preferred* for types of INSET 'long-award-bearing course'; (b) slightly more school staff (18.7%) than non school staff (15.3%) whose response was one away from the *most preferred* category for types of INSET 'long-award-bearing course'; (c) there is an even spread of school staff and non school staff (8.3% and 6.3% respectively) whose response was midway between *most and least preferred* category for types of INSET 'long-award-bearing course'; (d) there is an even spread of school staff and non school staff (10.6% and 12.6% respectively) whose response was one away from the *least preferred* category for types of INSET 'long-award-bearing course'; (e) more school staff (31.1%) than non school staff (22.5%) reported that they *least preferred* for types of INSET 'long-award-bearing course'.

Item 106 (Short-award-bearing course)

(a) more school staff (46.4%) than non school staff (38.7%) reported that they *most preferred* for types of INSET 'short-award-bearing course'; (b) there is an even spread of school staff and non school staff (23.6% and 21.6% respectively) whose response was one away from the *most preferred* category for types of INSET 'short-award-bearing course'; (c) there is an even spread of school staff and non school staff (9.1% and 11.7% respectively) whose response was midway between *most and least preferred* category for types of INSET 'short-award-bearing course'; (d) there is an even spread of school staff and non school staff (8% and 9.9% respectively) whose response was one away from the *least preferred* category for types of INSET 'short-award-bearing course'; (e) more non school staff (18%) than school staff (13%) reported that they *least preferred* for types of INSET 'short-award-bearing course'.

Experience

When one reviews the specifics of the crosstabulated distributions for this rating scale item by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 105 (Long-award-bearing course)

(a) more of those with 21 years and above experience (41.7%) than 20 years or less (31.3%) reported that they *most preferred* for types of INSET 'long-award-bearing

course'; (b) there is an even spread of those with 20 years or less experience and 21 years or above (18.3% and 19.2% respectively) whose response was one away from the *most preferred* category for types of INSET 'long-award-bearing course'; (c) there is an even spread of those with 20 years or less experience and 21 years or above (8.3% and 6.7% respectively) whose response was midway between *most and least preferred* category for types of INSET 'long-award-bearing course'; (d) slightly more of those with 20 years or less experience (11.1%) than 21 years and above (8.3%) whose response was one away from the *least preferred* category for types of INSET 'long-award-bearing course'; (e) more of those with 20 years or less experience (31%) than 21 years and above (24.2%) reported that they *least preferred* for types of INSET 'long-award-bearing course'.

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 108 (Workshops and study groups)

(a) more of those with a degree qualification (36.1%) than diploma (29.5%) reported that they *most preferred* for types of INSET 'workshops and study groups'; (b) there is an even spread of those with a diploma and degree qualification (28% and 28.9% respectively) whose response was one away from the *most preferred* category for types of INSET 'workshops and study groups'; (c) there is an even spread of those with a diploma and degree qualification (16.6% and 14.2% respectively) whose response was midway between *most and least preferred* category for types of INSET 'workshops and study groups'; (d) more of those with a diploma qualification (9%) than degree (5.6%) whose response was one away from the *least preferred* category for types of INSET 'workshops and study groups'; (e) there is an even spread of those with a diploma and degree qualification (16.8% and 15.3% respectively) reported that they *least preferred* for types of INSET 'workshops and study groups'.

Item 110 (A combination of the types of courses listed in this group)

(a) more of those with a degree qualification (35.3%) than diploma (25.9%) reported that they *most preferred* for types of INSET 'a combination of the types of courses

listed in this group'; (b) there is an even spread of those with a diploma and degree qualification (33.2% and 34.6% respectively) whose response was one away from the *most preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (c) slightly more of those with a diploma qualification (18.7%) than degree (14.3%) whose response was midway between *most and least preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (d) there is an even spread of those with a diploma and degree qualification (6.8% and 5.6% respectively) whose response was one away from the *least preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (e) slightly more of those with a diploma qualification (15.4%) than degree (10.2%) reported that they *least preferred* for types of INSET 'a combination of the types of courses listed in this group'.

Main subject

When one reviews the specifics of the crosstabulated distributions for these rating scale items by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 107 (Short non-award-bearing courses)

(a) more art teachers (19.7%) than Arabic language (18.2%), physical education (17.1%), science (15.4%), social science (13.5%), those who do not teach (9.3%), class teacher (8.1%) and English language (8.1%), and reported that they *most preferred* for types of INSET 'short non-award-bearing courses'; (b) more science teachers (15.9%) than social science (14.5%), Arabic language (13.6%), English language (13.5%), art (13.1%), physical education (12.2%), those who do not teach (9.3%) and class teacher (8.1%) whose response was one away from the *most preferred* category for types of INSET 'short non-award-bearing courses'; (c) more class teachers (18.9%) than those who do not teach (16.3%), Arabic language (14.2%), social science (14%), science (13.2%), English language (9.5%), art (8.2%) and physical education teachers (7.3%) whose response was midway between *most and least preferred* category for types of INSET 'short non-award-bearing courses'; (d) more art teachers (19.7%) than science (16.5%), those who do not teach (16.3%) social science (13.5%), Arabic language (12.5%), physical education (12.2%), English language (9.5%) and class teacher (5.4%) whose response was one away from the *least*

preferred category for types of INSET ‘short non-award-bearing courses’; (e) more class teachers (59.5%) and English language (59.5%) than physical education (51.2%), those who do not teach (48.8%), social science (44.6%), Arabic language (41.5%), art (39.3%) and science (39%) reported that they *least preferred* for types of INSET ‘short non-award-bearing courses’.

Item 109 (INSET provision with other schools)

(a) more Arabic language teachers (39.2%) than class teacher (37.8%), physical education (36.6%) and art (32.8%), those who do not teach (29.5%), science (29.4%), social science (29%) and English language (21.1%) reported that they *most preferred* for types of INSET ‘INSET provision with other schools’; (b) more art teachers (39.3%) than class teacher (37.8%), physical education (36.6%), science (32.7%), Arabic language (32.4%), social science (31.1%), English language (30.3%) and those who do not teach (27.3%) whose response was one away from the *most preferred* category for types of INSET ‘INSET provision with other schools’; (c) more of those who do not teach (20.5%) than social science (18.7%), science (17.6%), English language (10.5%), art (9.8%), physical education teachers (9.8%) Arabic language (6.8%) and class teacher (2.7%) and whose response was midway between *most and least preferred* category for types of INSET ‘INSET provision with other schools’; (d) more of those who do not teach (11.4%) than social science teachers (8.8%), science (8.5%), art (8.2%), class teacher (8.1%), English language (7.9%), Arabic language (5.7%) and physical education (4.9%) whose response was one away from the *least preferred* category for types of INSET ‘INSET provision with other schools’; (e) more English language teachers (30.3%) than Arabic language (15.9%), class teacher (13.5%), social science (12.4%), physical education (12.2%), science (11.8%), those who do not teach (11.4%) and art (9.8%) reported that they *least preferred* for types of INSET ‘INSET provision with other schools’.

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 108 (Workshops and study groups)

(a) more secondary education staff (35.9%) than basic education staff (28.3%) reported that they *most preferred* for types of INSET ‘workshops and study groups’; (b) there is an even spread of basic and secondary education staff (29.1% and 28.9% respectively) whose response was one away from the *most preferred* category for types of INSET ‘workshops and study groups’; (c) there is an even spread of basic and secondary education staff (16.4% and 14% respectively) whose response was midway between *most and least preferred* category for types of INSET ‘workshops and study groups’; (d) there is an even spread of basic and secondary education staff (8.3% and 5.7% respectively) whose response was one away from the *least preferred* category for types of INSET ‘workshops and study groups’; (e) there is an even spread of basic and secondary education staff (17.9% and 15.5% respectively) reported that they *least preferred* for types of INSET ‘workshops and study groups’.

Item 110 (A combination of the types of courses listed in this group)

(a) more secondary education staff (34.7%) than basic education staff (26.3%) reported that they *most preferred* for types of INSET ‘a combination of the types of courses listed in this group’; (b) there is an even spread of basic and secondary education staff (34.4% and 34.5% respectively) whose response was one away from the *most preferred* category for types of INSET ‘a combination of the types of courses listed in this group’; (c) more basic education staff (18.3%) than secondary education staff (13.4%) whose response was midway between *most and least preferred* category for types of INSET ‘a combination of the types of courses listed in this group’; (d) there is an even spread of basic and secondary education staff (6.7% and 5.3% respectively) whose response was one away from the *least preferred* category for types of INSET ‘a combination of the types of courses listed in this group’; (e) there is an even spread of basic and secondary education staff (14.3% and 12.1% respectively) reported that they *least preferred* for types of INSET ‘a combination of the types of courses listed in this group’.

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 106 (Short-award-bearing course)

(a) more of those with 25 students or less (47.3%) than those with 26 students or over (46.6%) and those who do not teach (31.4%) and reported that they *most preferred* for types of INSET 'short-award-bearing course'; (b) there is an even spread of those with 25 or less students, those with 26 or over and those who do not teach (23%, 24.2% and 25.5% respectively) whose response was one away from the *most preferred* category for types of INSET 'short-award-bearing course'; (c) there is an even spread of those with 25 or less students, those with 26 or over and those who do not teach (9.8%, 8.7% and 9.8% respectively) whose response was midway between *most and least preferred* category for types of INSET 'short-award-bearing course'; (d) more of those who do not teach (11.8%) than those with 26 students or over (7.9%) and those with 25 or less (7.8%) whose response was one away from the *least preferred* category for types of INSET 'short-award-bearing course'; (e) more of those who do not teach (21.6%) than those with 26 students or over (12.7%) and those with 25 or less (12.1%) reported that they *least preferred* for types of INSET 'short-award-bearing course'.

Item 108 (Workshops and study groups)

(a) more of those who do not teach (37.3%) than those with 26 students or over (32.7%) and those with 25 students or less (28.9%) reported that they *most preferred* for types of INSET 'workshops and study groups'; (b) more of those who do not teach (35.3%) than those with 25 students or less (32.1%) and those with 26 students or over (31.1%) whose response was one away from the *most preferred* category for types of INSET 'workshops and study groups'; (c) more of those with 25 students or less (17%) than those with 26 students or over (14.9%) and those who do not teach (11.8%) whose response was midway between *most and least preferred* category for types of INSET 'workshops and study groups'; (d) more of those with 25 students or less (10.3%) than those with 26 students or over (6.1%) and those who do not teach (3.9%) whose response was one away from the *least preferred* category for types of INSET 'workshops and study groups'; (e) more of those with 25 students or less (21.7%) than those with 26 students or over (15.2%) and those who do not teach (11.8%) reported that they *least preferred* for types of INSET 'workshops and study groups'.

Item 110 (A combination of the types of courses listed in this group)

(a) more of those with 26 students or over (32.1%) than those who do not teach (27.5%) and those with 25 students or less (25.8%) reported that they *most preferred* for types of INSET 'a combination of the types of courses listed in this group'; (b) there is an even spread of those with 25 or less students, those with 26 or over and those who do not teach (32.4%, 35.3% and 33.3% respectively) whose response was one away from the *most preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (c) there is an even spread of those with 25 or less students, those with 26 or over and those who do not teach (16.4%, 15.9% and 15.7% respectively) whose response was midway between *most and least preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (d) slightly more of those with 25 or less (8.6%) than those who do not teach (5.9%) and those with 26 students or over (5.1%) whose response was one away from the *least preferred* category for types of INSET 'a combination of the types of courses listed in this group'; (e) more of those who do not teach (17.6%) than those with 25 or less (16.8%) and those with 26 students or over (11.7%) reported that they *least preferred* for types of INSET 'a combination of the types of courses listed in this group'.

Main level of class (es) taught in basic education (MLCTBE)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by MLCTBE the following results emerge (percentages indicate the proportion of the total number of MLCTBE categories):

Item 106 (Short-award-bearing course)

(a) more of those who teach class (es) seven to ninth (46.6%) than first to sixth (44%), those whose teaching is equally distributed (39.4%) and those who do not teach (20.5%) reported that they *most preferred* for types of INSET 'short-award-bearing course'; (b) more of those whose teaching groups are equally distributed (33.3%) than those who do not teach (30.8%), those who teach class (es) seven to ninth (24.1%) and first to sixth (23.1%) whose response was one away from the *most preferred* category for types of INSET 'short-award-bearing course'; (c) there is an even spread of those who teach class (es) first to sixth, seven to ninth, equally distributed and those who do not teach (6.6%, 7.9%, 6.1 and 7.7% respectively) whose response was midway

between *most and least preferred* category for types of INSET ‘short-award-bearing course’; **(d)** more of those who do not teach (12.8%) than those who teach first to sixth (12.1%), those whose teaching groups are equally distributed (12.1%) and seven to ninth (8.7%) whose response was one away from the *least preferred* category for types of INSET ‘short-award-bearing course’; **(e)** more of those who do not teach (28.2%) than those who teach first to sixth (14.3%), seven to ninth (12.7%) and those whose teaching groups are equally distributed (9.1%) reported that they *least preferred* for types of INSET ‘short-award-bearing course’.

Item 109 (INSET provision with other schools)

(a) more of those who teach class (es) first to sixth (40.7%) than those whose teaching is equally distributed (33.3%), those who do not teach (25.6%) and those who teach seven to ninth (25%) reported that they *most preferred* for types of INSET ‘INSET provision with other schools’; **(b)** more of those whose teaching groups are equally distributed (42.4%) than those who teach first to sixth (36.3%), seven to ninth (35.9%) and those who do not teach (30.8%) whose response was one away from the *most preferred* category for types of INSET ‘INSET provision with other schools’; **(c)** more of those who do not teach (25.6%) than those who teach seven to ninth (16.5%), those whose teaching groups are equally distributed (9.1%) and those who teach first to sixth (3.3%), and whose response was midway between *most and least preferred* category for types of INSET ‘INSET provision with other schools’; **(d)** more of those who do not teach (10.3%) than those who teach seven to ninth (7.7%), first to sixth (5.5%) and those whose teaching groups are equally distributed (3%) whose response was one away from the *least preferred* category for types of INSET ‘INSET provision with other schools’; **(e)** more of those who teach seven to ninth (14.9%) than first to sixth (14.3%), those whose teaching groups are equally distributed (12.1%) and those who do not teach (7.7%) reported that they *least preferred* for types of INSET ‘INSET provision with other schools’.

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 108 (Workshops and study groups)

(a) more of those who work in an urban area (34.4%) than remote (29%) and rural (26.5%) reported that they *most preferred* for types of INSET ‘workshops and study groups’; (b) more of those who work in an urban area (30.1%) than rural (28.8%) and remote (20.3%) whose response was one away from the *most preferred* category for types of INSET ‘workshops and study groups’; (c) more of those who work in a remote area (23.2%) than rural (18.6%) and urban (13.1%) whose response was midway between *most and least preferred* category for types of INSET ‘workshops and study groups’; (d) more of those who work in a rural area (9.1%) than urban (6.4%) and remote (5.8%) whose response was one away from the *least preferred* category for types of INSET ‘workshops and study groups’; (e) more of those who work in a remote area (21.7%) than urban (17%) and rural (16%) reported that they *least preferred* for types of INSET ‘workshops and study groups’.

Item 110 (A combination of the types of courses listed in this group)

(a) more of those who work in an urban area (32.4%) than rural (27.9%) and remote (17.4%) reported that they *most preferred* for types of INSET ‘a combination of the types of courses listed in this group’; (b) there is an even spread of those who work in an urban, rural and remote areas (35.4%, 32.1% and 34.8% respectively) whose response was one away from the *most preferred* category for types of INSET ‘a combination of the types of courses listed in this group’; (c) more of those who work in a remote area (18.8%) than rural (18.1%) and urban (14.9%) whose response was midway between *most and least preferred* category for types of INSET ‘a combination of the types of courses listed in this group’; (d) more of those who work in a remote area (11.6%) than rural (7.5%) and urban (4.9%) whose response was one away from the *least preferred* category for types of INSET ‘a combination of the types of courses listed in this group’; (e) more of those who work in a remote area (17.4%) than rural (14.3%) and urban (12.5%) reported that they *least preferred* for types of INSET ‘a combination of the types of courses listed in this group’.

APPENDIX

9

CROSSTABULATED BIOGRAPHICAL DETAILS BY TEACHERS' PREFERENCES FOR THE LOCATION OF INSET COURSES

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning teachers' preferences for the location of INSET courses.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 112 (Own schools)

(a) more females (66.1%) than males (46.2%) reported that they *most preferred* for the location of INSET 'own schools'; (b) more males (15.6%) than females (10.3%) whose response was one away from the *most preferred* category for the location of INSET 'own schools'; (c) there is an even spread of males and females (5.6% and 4.2% respectively) whose response was midway between *most and least preferred* category for the location of INSET 'own schools'; (d) slightly more males (8.9%) than females (5.2%) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) more males (23.7%) than females (14.1%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 114 (Teacher training college)

(a) more males (50.9%) than females (34.8%) reported that they *most preferred* for the location of INSET 'teacher training college'; (b) there is an equal spread (24%) of

males and females whose response was one away from the *most preferred* category for the location of INSET ‘teacher training college’; (c) there is an even spread of males and females (7.4% and 7.9% respectively) whose response was midway between *most and least preferred* category for the location of INSET ‘teacher training college’; (d) more females (7.9%) than males (3.1%) whose response was one away from the *least preferred* category for the location of INSET ‘teacher training college’; (e) more females (25.3%) than males (14.6%) reported that they *least preferred* for the location of INSET ‘teacher training college’.

Item 115 (University)

(a) slightly more males (31.5%) than females (28.4%) reported that they *most preferred* for the location of INSET ‘university’; (b) more males (25.4%) than females (20.8%) whose response was one away from the *most preferred* category for the location of INSET ‘university’; (c) there is an even spread of males and females (8.7% and 9.5% respectively) whose response was midway between *most and least preferred* category for the location of INSET ‘university’; (d) there is an even spread of males and females (7.4% and 9.5% respectively) whose response was one away from the *least preferred* category for the location of INSET ‘university’; (e) more females (31.9%) than males (26.9%) reported that they *least preferred* for the location of INSET ‘university’.

Age group

When one reviews the specifics of the crosstabulated distributions for these rating scale items by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 112 (Own schools)

(a) more of those aged 40 years or less (61%) than 41 years and above (43.7%) reported that they *most preferred* for the location of INSET ‘own schools’; (b) slightly more of those aged 41 years and above (15.1%) than 40 years or less (11.8%) whose response was one away from the *most preferred* category for the location of INSET ‘own schools’; (c) slightly more of those aged 41 years and above (7.6%) than 40 years or less (4.4%) whose response was midway between *most and least preferred* category for the location of INSET ‘own schools’; (d) more of those aged 41 years and

above (12.6%) than 40 years or less (5.8%) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) slightly more of those aged 41 years and above (21%) than 40 years or less (17%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 114 (Teacher training college)

(a) more of those aged 41 years and above (60.2%) than 40 years or less (38%) reported that they *most preferred* for the location of INSET 'teacher training college'; (b) slightly more of those aged 40 years or less (24.5%) than 41 years and above (20.3%) whose response was one away from the *most preferred* category for the location of INSET 'teacher training college'; (c) slightly more of those aged 40 years or less (8.1%) than 41 years and above (5.1%) whose response was midway between *most and least preferred* category for the location of INSET 'teacher training college'; (d) more of those aged 40 years or less (6.7%) than 41 years and above (1.7%) whose response was one away from the *least preferred* category for the location of INSET 'teacher training college'; (e) more of those aged 40 years or less (22.6%) than 41 years and above (12.7%) reported that they *least preferred* for the location of INSET 'teacher training college'.

Item 116 (A combination of the course locations listed in this group)

(a) more of those aged 41 years and above (35.3%) than 40 years or less (26.5%) reported that they *most preferred* for the location of INSET 'a combination of the course locations listed in this group'; (b) there is an even spread of those aged 40 years or less and 41 years and above (33.3% and 32.8% respectively) whose response was one away from the *most preferred* category for the location of INSET 'a combination of the course locations listed in this group'; (c) slightly more of those aged 40 years or less (15.2%) than 41 years and above (12.6%) whose response was midway between *most and least preferred* category for the location of INSET 'a combination of the course locations listed in this group'; (d) there is an even spread of those aged 40 years or less and 41 years and above (6.1% and 7.6% respectively) whose response was one away from the *least preferred* category for the location of INSET 'a combination of the course locations listed in this group'; (e) more of those aged 40 years or less (18.8%) than 41 years and above (11.8%) reported that they *least preferred* for the location of INSET 'a combination of the course locations listed in this group'.

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 112 (Own schools)

(a) more school staff (61.6%) than non school staff (36%) reported that they *most preferred* for the location of INSET 'own schools'; (b) more non school staff (16.2%) than school staff (11.7%) whose response was one away from the *most preferred* category for the location of INSET 'own schools'; (c) there is an even spread of school staff and non school staff (4.6% and 6.3% respectively) whose response was midway between *most and least preferred* category for the location of INSET 'own schools'; (d) more non school staff (13.5%) than school staff (5.8%) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) more non school staff (27.9%) than school staff (16.4%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 114 (Teacher training college)

(a) more non school staff (61.3%) than school staff (38.2%) reported that they *most preferred* for the location of INSET 'teacher training college'; (b) more school staff (24.7%) than non school staff (18%) whose response was one away from the *most preferred* category for the location of INSET 'teacher training college'; (c) there is an even spread of school staff and non school staff (7.9% and 6.3% respectively) whose response was midway between *most and least preferred* category for the location of INSET 'teacher training college'; (d) more school staff (6.7%) than non school staff (1.8%) whose response was one away from the *least preferred* category for the location of INSET 'teacher training college'; (e) more school staff (22.5%) than non school staff (12.6%) reported that they *least preferred* for the location of INSET 'teacher training college'.

Item 115 (University)

(a) more non school staff (39.6%) than school staff (28.4%) reported that they *most preferred* for the location of INSET 'university'; (b) there is an even spread of school staff and non school staff (22.4% and 22.5% respectively) whose response was one

away from the *most preferred* category for the location of INSET ‘university’; (c) slightly more school staff (9.6%) than non school staff (5.4%) whose response was midway between *most and least preferred* category for the location of INSET ‘university’; (d) slightly more non school staff (10.8%) than school staff (8.5%) whose response was one away from the *least preferred* category for the location of INSET ‘university’; (e) more school staff (31.1%) than non school staff (21.6%) reported that they *least preferred* for the location of INSET ‘university’.

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 112 (Own schools)

(a) more of those with 20 years or less experience (61.2%) than 21 years and above (40.8%) reported that they *most preferred* for the location of INSET ‘own schools’; (b) there is an even spread of those with 20 years or less experience and 21 years or above (12% and 14.2% respectively) whose response was one away from the *most preferred* category for the location of INSET ‘own schools’; (c) more of those with 21 years and above experience (8.3%) than 20 years or less (4.3%) whose response was midway between *most and least preferred* category for the location of INSET ‘own schools’; (d) more of those with 21 years and above experience (13.3%) than 20 years or less (5.7%) whose response was one away from the *least preferred* category for the location of INSET ‘own schools’; (e) more of those with 21 years and above experience (23.3%) than 20 years or less (16.9%) reported that they *least preferred* for the location of INSET ‘own schools’.

Item 114 (Teacher training college)

(a) more of those with 21 years and above experience (64.7%) than 20 years or less (37.6%) reported that they *most preferred* for the location of INSET ‘teacher training college’; (b) more of those with 20 years or less experience (24.5%) than 21 years and above (19.3%) whose response was one away from the *most preferred* category for the location of INSET ‘teacher training college’; (c) more of those with 20 years or less experience (8.3%) than 21 years and above (3.4%) whose response was midway

between *most and least preferred* category for the location of INSET ‘teacher training college’; **(d)** more of those with 20 years or less experience (6.6%) than 21 years and above (2.5%) whose response was one away from the *least preferred* category for the location of INSET ‘teacher training college’; **(e)** more of those with 20 years or less experience (22.9%) than 21 years and above (10.1%) reported that they *least preferred* for the location of INSET ‘teacher training college’.

Item 116 (A combination of the course locations listed in this group)

(a) more of those with 21 years and above (35.8%) than those with 20 years or less experience (26.4%) than reported that they *most preferred* for the location of INSET ‘a combination of the course locations listed in this group’; **(b)** there is an even spread of those with 20 years or less experience and 21 years or above (33.4% and 31.7% respectively) whose response was one away from the *most preferred* category for the location of INSET ‘a combination of the course locations listed in this group’; **(c)** there is an even spread of those with 20 years or less experience and 21 years or above (15% and 14% respectively) whose response was midway between *most and least preferred* category for the location of INSET ‘a combination of the course locations listed in this group’; **(d)** there is an even spread of those with 20 years or less experience and 21 years or above (6.3% and 6.7% respectively) whose response was one away from the *least preferred* category for the location of INSET ‘a combination of the course locations listed in this group’; **(e)** more of those with 20 years or less (18.8%) than 21 years and above experience (11.7%) reported that they *least preferred* for the location of INSET ‘a combination of the course locations listed in this group’.

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 112 (Own schools)

(a) more of those with a degree qualification (63.1%) than diploma (54.1%) reported that they *most preferred* for the location of INSET ‘own schools’; **(b)** there is an even spread of those with a diploma and degree qualification (13.3% and 11.1% respectively) whose response was one away from the *most preferred* category for the

location of INSET 'own schools'; (c) there is an even spread of those with a diploma and degree qualification (4.5% and 4.8% respectively) whose response was midway between *most and least preferred* category for the location of INSET 'own schools'; (d) there is an even spread of those with a diploma and degree qualification (7% and 6.1% respectively) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) more of those with a diploma qualification (20.3%) than degree (14.8%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 113 (Other schools)

(a) slightly more of those with a diploma qualification (9%) than degree (6.5%) reported that they *most preferred* for the location of INSET 'other schools'; (b) there is an even spread of those with a diploma and degree qualification (19.6% and 20% respectively) whose response was one away from the *most preferred* category for the location of INSET 'other schools'; (c) slightly more of those with a diploma qualification (16%) than degree (13.7%) whose response was midway between *most and least preferred* category for the location of INSET 'other schools'; (d) slightly more of those with a diploma qualification (20.3%) than degree (17.4%) whose response was one away from the *least preferred* category for the location of INSET 'other schools'; (e) more of those with a degree qualification (42.3%) than diploma (35.2%) reported that they *least preferred* for the location of INSET 'other schools'.

Item 114 (Teacher training college)

(a) more of those with a diploma qualification (46.2%) than degree (34.5%) reported that they *most preferred* for the location of INSET 'teacher training college'; (b) there is an even spread of those with a diploma and degree qualification (23.7% and 24.5% respectively) whose response was one away from the *most preferred* category for the location of INSET 'teacher training college'; (c) slightly more of those with a degree qualification (9.5%) than diploma (5.9%) whose response was midway between *most and least preferred* category for the location of INSET 'teacher training college'; (d) there is an even spread of those with a diploma and degree qualification (5.9% and 6.5% respectively) whose response was one away from the *least preferred* category for the location of INSET 'teacher training college'; (e) more of those with a degree

qualification (25%) than diploma (18.2%) reported that they *least preferred* for the location of INSET ‘teacher training college’.

Item 115 (University)

(a) more of those with a degree qualification (35.6%) than diploma (23.4%) reported that they *most preferred* for the location of INSET ‘university’; (b) there is an even spread of those with a diploma and degree qualification (23.2% and 21.5% respectively) whose response was one away from the *most preferred* category for the location of INSET ‘university’; (c) there is an even spread of those with a diploma and degree qualification (9% and 9.4% respectively) whose response was midway between *most and least preferred* category for the location of INSET ‘university’; (d) slightly more of those with a diploma qualification (10.3%) than degree (7.2%) whose response was one away from the *least preferred* category for the location of INSET ‘university’; (e) more of those with a diploma qualification (34.1%) than degree (26.3%) reported that they *least preferred* for the location of INSET ‘university’.

Main subject

When one reviews the specifics of the crosstabulated distributions for this rating scale item by main subjects the following results emerge (percentages indicate the proportion of the total number of main subject categories):

Item 112 (Own schools)

(a) more Arabic language teachers (67.2%) than science (65.8%), social science (61.9%), class teacher (54.1%), English language (52.6%), art (52.5%), physical education (48.8%) and those who do not teach (45.5%) reported that they *most preferred* for the location of INSET ‘own schools’; (b) more physical education teachers (26.8%) than art (21.3%), English language (18.4%), social science (14.9%), those who do not teach (9.1%), science (8.8%), class teacher (8.1%) and Arabic language (7.3%) whose response was one away from the *most preferred* category for the location of INSET ‘own schools’; (c) more of those who do not teach (11.4%) than class teacher (5.4%), English language teachers (5.3%), Arabic language (4.5%), science (4.4%), social science (3.6%), art (3.3%) and physical education (2.4%) whose response was midway between *most and least preferred* category for the location of INSET ‘own schools’; (d) more physical education teachers (9.8%) than class teacher

(8.1%), science (7.7%), art (6.6%), those who do not teach (4.5%), Arabic language (4%), English language (3.9%) and social science (3.1%) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) more of those who do not teach (29.5%) than class teacher (24.3%), English language (19.7%), Arabic language (16.9%), social science (16.5%), science (13.4%), art teachers (16.4%) and physical education (12.2%) reported that they *least preferred* for the location of INSET 'own schools'.

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 112 (Own schools)

(a) more secondary education staff (67.4%) than basic education staff (56.1%) reported that they *most preferred* for the location of INSET 'own schools'; (b) slightly more basic education staff (13.7%) than secondary education staff (10%) whose response was one away from the *most preferred* category for the location of INSET 'own schools'; (c) there is an even spread of basic and secondary education staff (4.8 and 4.2% respectively) whose response was midway between *most and least preferred* category for the location of INSET 'own schools'; (d) there is an even spread of basic and secondary education staff (6.3% and 5.1% respectively) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) more basic education staff (19.1%) than secondary education staff (13.3%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 114 (Teacher training college)

(a) more basic education staff (42.8%) than secondary education staff (32.3%) reported that they *most preferred* for the location of INSET 'teacher training college'; (b) there is an even spread of basic and secondary education staff (24.7% and 24.8% respectively) whose response was one away from the *most preferred* category for the location of INSET 'teacher training college'; (c) more secondary education staff (10.2%) than basic education staff (5.9%) whose response was midway between *most and least preferred* category for the location of INSET 'teacher training college'; (d) a

very small proportion of responses, with a fairly even spread of basic and secondary education staff (6.3% and 7.2% respectively) whose response was one away from the *least preferred* category for the location of INSET ‘teacher training college’; (e) more secondary education staff (25.5%) than basic education staff (20.3%) reported that they *least preferred* for the location of INSET ‘teacher training college’.

Item 115 (University)

(a) more secondary education staff (33.7%) than basic education staff (23.2%) reported that they *most preferred* for the location of INSET ‘university’; (b) there is an even spread of basic and secondary education staff (23.2% and 21.8% respectively) whose response was one away from the *most preferred* category for the location of INSET ‘university’; (c) there is an even spread of basic and secondary education staff (8.4% and 10.8% respectively) whose response was midway between *most and least preferred* category for the location of INSET ‘university’; (d) slightly more basic education staff (110.7%) than secondary education staff (6.4%) whose response was one away from the *least preferred* category for the location of INSET ‘university’; (e) more basic education staff (34.5%) than secondary education staff (27.3%) reported that they *least preferred* for the location of INSET ‘university’.

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for these rating scale items by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 112 (Own schools)

(a) more of those with 26 students or over (64.5%) than those with 25 students or less (55.5%) and those who do not teach (49%) reported that they *most preferred* for the location of INSET ‘own schools’; (b) slightly more of those with 26 students or over (13.2%) than those who do not teach (9.8%) and those with 25 students or less (9%) whose response was one away from the *most preferred* category for the location of INSET ‘own schools’; (c) more of those who do not teach (9.8%) than those with 25 students or less (4.7%) and those with 26 students or over (4.1%) whose response was midway between *most and least preferred* category for the location of INSET ‘own schools’; (d) more of those with 26 students or over (6.3%) than those with 25

students or less (5.1%) and those who do not teach (2%) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; (e) more of those who do not teach (29.4%) than those with 25 students or less (25.8%) and those with 26 students or over (11.9%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 114 (Teacher training college)

(a) more of those who do not teach (47.1%) and those with 25 students or less (46.7%) than those with 26 students or over (33.9%) reported that they *most preferred* for the location of INSET 'teacher training college'; (b) there is an even spread of those with 25 or less students, those with 26 or over and those who do not teach (22.7%, 25.5% and 23.5% respectively) whose response was one away from the *most preferred* category for the location of INSET 'teacher training college'; (c) there is an even spread of those with 25 or less students, those with 26 or over and those who do not teach (6.7%, 8.4% and 7.8% respectively) whose response was midway between *most* and *least preferred* category for the location of INSET 'teacher training college'; (d) slightly more of those who do not teach (9.8%) than those with 26 students or over (7.3%) and those with 25 or less (4.7%) whose response was one away from the *least preferred* category for the location of INSET 'teacher training college'; (e) more of those with 26 students or over (24.9%) than those with 25 or less (19.2%) and those who do not teach (11.8%) reported that they *least preferred* for the location of INSET 'teacher training college'.

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 112 (Own schools)

(a) more of those who work in an urban area (63.6%) than remote (60.9%) and rural (55.6%) reported that they *most preferred* for the location of INSET 'own schools'; (b) more of those who work in an urban area (13.1%) than rural (10.9%) and remote (4.3%) whose response was one away from the *most preferred* category for the location of INSET 'own schools'; (c) more of those who work in a remote area (7.2%)

than urban (4.4%) and rural (4.1%) whose response was midway between *most and least preferred* category for the location of INSET 'own schools'; **(d)** more of those who work in a rural area (7.5%) than remote (7.2%) and rural (7.5%) whose response was one away from the *least preferred* category for the location of INSET 'own schools'; **(e)** more of those who work in a rural area (21.8%) than remote (20.3%) and urban (13.8%) reported that they *least preferred* for the location of INSET 'own schools'.

Item 115 (University)

(a) more of those who work in an urban area (29.8%) than remote (29%) and rural (24.2%) reported that they *most preferred* for the location of INSET 'university'; **(b)** more of those who work in a remote area (24.6%) than urban (24%) and rural (18.5%) whose response was one away from the *most preferred* category for the location of INSET 'university'; **(c)** more of those who work in a rural area (10.6%) than urban (9.7%) and remote (4.3%) whose response was midway between *most and least preferred* category for the location of INSET 'university'; **(d)** more of those who work in a rural area (12.8%) than remote (7.2%) and urban (7.1%) whose response was one away from the *least preferred* category for the location of INSET 'university'; **(e)** more of those who work in a remote area (34.8%) than urban (34%) and rural (29.3%) reported that they *least preferred* for the location of INSET 'university'.

APPENDIX

10

CROSSTABULATED BIOGRAPHICAL DETAILS BY TEACHERS' PREFERENCES FOR TEACHING STYLES IN INSET COURSES

A review is presented of crosstabulated data to identify the significant distribution of the characteristics of nominal data with regard to the rating scale items concerning teachers' preferences for teaching styles in INSET courses.

Gender

When one reviews the specifics of the crosstabulated distributions for these rating scale items by gender the following results emerge (percentages indicate the proportion of the total number of males and females):

Item 121 (Micro-teaching sessions)

(a) more females (37.3%) than males (33%) reported that the *most effective* teaching styles in INSET is 'micro-teaching sessions'; (b) there is an even spread of males and females (30.7% and 33.5% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'micro-teaching sessions'; (c) there is an even spread of males and females (14.9% and 12.5% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'micro-teaching sessions'; (d) there is an even spread of males and females (8.8% and 6.8% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'micro-teaching sessions'; (e) there is an even spread of males and females (12.6% and 9.8% respectively) reported that the *least effective* teaching styles in INSET is 'micro-teaching sessions'.

Item 122 (Demonstration lessons followed by discussion)

(a) more females (54.4%) than males (47.2%) reported that the *most effective* teaching styles in INSET is 'demonstration lessons followed by discussion'; (b) there is an equal spread (30.5%) of males and females whose response was one away from the *most effective* category for teaching styles in INSET 'demonstration lessons followed by discussion'; (c) there is an even spread of males and females (9.2% and 6.4% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'demonstration lessons followed by discussion'; (d) there is an equal spread (30.8%) of males and females whose response was one away from the *least effective* category for teaching styles in INSET 'demonstration lessons followed by discussion'; (e) more males (9.2%) than females (4.8%) reported that the *least effective* teaching styles in INSET is 'demonstration lessons followed by discussion'.

Item 123 (Radio broadcasts)

(a) more females (17%) than males (12.5%) reported that the *most effective* teaching styles in INSET is 'radio broadcasts'; (b) more females (21.4%) than males (14.8%) whose response was one away from the *most effective* category for teaching styles in INSET 'radio broadcasts'; (c) there is an even spread of males and females (18.7% and 16.9% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'radio broadcasts'; (d) more males (20.2%) than females (16%) whose response was one away from the *least effective* category for teaching styles in INSET 'radio broadcasts'; (e) more males (33.8%) than females (28.7%) reported that the *least effective* teaching styles in INSET is 'radio broadcasts'.

Item 124 (T.V. broadcasts)

(a) more females (41.9%) than males (34.3%) reported that the *most effective* teaching styles in INSET is 'T.V. broadcasts'; (b) there is an even spread of males and females (28.6% and 27.4% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'T.V. broadcasts'; (c) more males (13.4%) than females (8.8%) whose response was midway between *most and least effective* category for teaching styles in INSET 'T.V. broadcasts'; (d) there is an even spread of males and females (10.8% and 8.2% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'T.V. broadcasts'; (e) there is an

even spread of males and females (12.9% and 13.6% respectively) reported that the *least effective* teaching styles in INSET is 'T.V. broadcasts'.

Item 125 (A combination of the teaching styles listed in this group)

(a) more females (54.5%) than males (44.8%) reported that the *most effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'; (b) more males (23.5%) than females (18%) whose response was one away from the *most effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (c) more males (17.6%) than females (13.5%) whose response was midway between *most and least effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (d) there is an even spread of males and females (4.6% and 5% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (e) there is an even spread of males and females (9.5% and 8.9% respectively) reported that the *least effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'.

Age group

When one reviews the specifics of the crosstabulated distributions for this rating scale item by age group the following results emerge (percentages indicate the proportion of the total number of age group categories):

Item 124 (T.V. broadcasts)

(a) more of those aged 40 years or less (40.4%) than 41 years and above (28.8%) reported that the *most effective* teaching styles in INSET 'T.V. broadcasts'; (b) there is an even spread of those aged 40 years or less and 41 years and above (27.8% and 28.8% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'T.V. broadcasts'; (c) there is an even spread of those aged 40 years or less and 41 years and above (10.2% and 12.7% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'T.V. broadcasts'; (d) more of those aged 41 years and above (13.6%) than 40 years or less (8.6%) whose response was one away from the *least effective* category for teaching styles in INSET 'T.V. broadcasts'; (e) more of those aged 41 years and above

(16.1%) than 40 years or less (13%) reported that the *least effective* teaching styles in INSET is 'T.V. broadcasts'.

Job status

When one reviews the specifics of the crosstabulated distributions for these rating scale items by job status the following results emerge (percentages indicate the proportion of the total number of job status categories):

Item 119 (Seminars)

(a) more non school staff (44.1%) than school staff (34.5%) reported that the *most effective* teaching styles in INSET is 'seminars'; (b) there is an even spread of school staff and non school staff (34.3% and 32.4% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'seminars'; (c) slightly more non school staff (16.2%) than school staff (12.4%) whose response was midway between *most and least effective* category for teaching styles in INSET 'seminars'; (d) slightly more school staff (6.4%) than non school staff (2.7%) whose response was one away from the *least effective* category for teaching styles in INSET 'seminars'; (e) more school staff (12.4%) than non school staff (4.5%) reported that the *least effective* teaching styles in INSET is 'seminars'.

Item 120 (Workshops)

(a) more non school staff (42.2%) than school staff (34.1%) reported that the *most effective* teaching styles in INSET is 'workshops'; (b) more non school staff (32.1%) than school staff (26.3%) whose response was one away from the *most effective* category for teaching styles in INSET 'workshops'; (c) more school staff (15.9%) than non school staff (8.3%) whose response was midway between *most and least effective* category for teaching styles in INSET 'workshops'; (d) more school staff (7.2%) than non school staff (3.7%) whose response was one away from the *least effective* category for teaching styles in INSET 'workshops'; (e) more school staff (16.5%) than non school staff (13.8%) reported that the *least effective* teaching styles in INSET is 'workshops'.

Experience

When one reviews the specifics of the crosstabulated distributions for these rating scale items by experience the following results emerge (percentages indicate the proportion of the total number of experience categories):

Item 119 (Seminars)

(a) more of those with 21 years and above experience (45.4%) than 20 years or less (34.3%) reported that the *most effective* teaching styles in INSET is 'seminars'; (b) more of those with 20 years or less experience (34.8%) than 21 years and above (29.4%) whose response was one away from the *most effective* category for teaching styles in INSET 'seminars'; (c) there is an even spread of those with 20 years or less experience and 21 years or above (12.9% and 11.8% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'seminars'; (d) there is an even spread of those with 20 years or less experience and 21 years or above (6.2% and 4.2% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'seminars'; (e) there is an even spread of those with 20 years or less experience and 21 years or above (11.9% and 9.2% respectively) reported that the *least effective* teaching styles in INSET is 'seminars'.

Item 124 (T.V. broadcasts)

(a) more of those with 20 years or less experience (40.4%) than 21 years and above (29.4%) reported that the *most effective* teaching styles in INSET is 'T.V. broadcasts'; (b) there is an even spread of those with 20 years or less experience and 21 years or above (27.8% and 27.7% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'T.V. broadcasts'; (c) more of those with 21 years and above experience (14.3%) than 20 years or less (10%) whose response was midway between *most and least effective* category for teaching styles in INSET 'T.V. broadcasts'; (d) more of those with 21 years and above experience (13.4%) than 20 years or less (8.6%) whose response was one away from the *least effective* category for teaching styles in INSET 'T.V. broadcasts'; (e) there is an even spread of those with 20 years or less experience and 21 years or above (13.2% and 15.1% respectively) reported that the *least effective* teaching styles in INSET is 'T.V. broadcasts'.

Qualification

When one reviews the specifics of the crosstabulated distributions for these rating scale items by qualification the following results emerge (percentages indicate the proportion of the total number of qualification categories):

Item 118 (Lectures)

(a) more of those with a degree qualification (30.7%) than diploma (25.4%) reported that the *most effective* teaching styles in INSET is 'lectures'; (b) there is an even spread of those with a diploma and degree qualification (27.7% and 29.6% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'lectures'; (c) there is an even spread of those with a diploma and degree qualification (13.1% and 13% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'lectures'; (d) there is an even spread of those with a diploma and degree qualification (11.2% and 9.3% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'lectures'; (e) more of those with a diploma qualification (22.7%) than degree (17.4%) reported that the *least effective* teaching styles in INSET is 'lectures'.

Item 119 (Seminars)

(a) more of those with a degree qualification (39.3%) than diploma (31.8%) reported that the *most effective* teaching styles in INSET is 'seminars'; (b) more of those with a diploma qualification (36.3%) than degree (31.9%) whose response was one away from the *most effective* category for teaching styles in INSET 'seminars'; (c) more of those with a diploma qualification (14.4%) than degree (10.9%) whose response was midway between *most and least effective* category for teaching styles in INSET 'seminars'; (d) there is an even spread of those with a diploma and degree qualification (5% and 7.1% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'seminars'; (e) there is an even spread of those with a diploma and degree qualification (12.4% and 10.8% respectively) reported that the *least effective* teaching styles in INSET is 'seminars'.

Item 120 (Workshops)

(a) more of those with a degree qualification (38.5%) than diploma (31.2%) reported that the *most effective* teaching styles in INSET is 'workshops'; (b) there is an even spread of those with a diploma and degree qualification (27% and 26.6% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'workshops'; (c) there is an even spread of those with a diploma and degree qualification (16.6% and 13.8% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'workshops'; (d) there is an even spread of those with a diploma and degree qualification (8.1% and 5.6% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'workshops'; (e) there is an even spread of those with a diploma and degree qualification (17.1% and 15.5% respectively) reported that the *least effective* teaching styles in INSET is 'workshops'.

Item 122 (Demonstration lessons followed by discussion)

(a) more of those with a degree qualification (56.6%) than diploma (47.3%) reported that the *most effective* teaching styles in INSET is 'demonstration lessons followed by discussion'; (b) more of those with a diploma qualification (34.1%) than degree (26.8%) whose response was one away from the *most effective* category for teaching styles in INSET 'demonstration lessons followed by discussion'; (c) there is an even spread of those with a diploma and degree qualification (8.1% and 6.7% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'demonstration lessons followed by discussion'; (d) there is an even spread of those with a diploma and degree qualification (3.4% and 4.3% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'demonstration lessons followed by discussion'; (e) there is an even spread of those with a diploma and degree qualification (7% and 5.6% respectively) reported that the *least effective* teaching styles in INSET is 'demonstration lessons followed by discussion'.

Item 124 (T.V. broadcasts)

(a) more of those with a diploma qualification (43.5%) than degree (34.6%) reported that the *most effective* teaching styles in INSET is 'T.V. broadcasts'; (b) there is an even spread of those with a diploma and degree qualification (29% and 26.6%

respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'T.V. broadcasts'; (c) there is an even spread of those with a diploma and degree qualification (9.2% and 11.7% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'T.V. broadcasts'; (d) there is an even spread of those with a diploma and degree qualification (7.8% and 10.6% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'T.V. broadcasts'; (e) more of those with a diploma qualification (16.4%) than degree (10.5%) reported that the *least effective* teaching styles in INSET is 'T.V. broadcasts'.

Item 125 (A combination of the teaching styles listed in this group)

(a) more of those with a degree qualification (54.5%) than diploma (47.7%) reported that the *most effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'; (b) there is an even spread of those with a diploma and degree qualification (18.9% and 21.3% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (c) there is an even spread of those with a diploma and degree qualification (16.7% and 13.2% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (d) there is an even spread of those with a diploma and degree qualification (6.5% and 3.2% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (e) there is an even spread of those with a diploma and degree qualification (10.3% and 7.8% respectively) reported that the *least effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'.

Institution

When one reviews the specifics of the crosstabulated distributions for these rating scale items by institution the following results emerge (percentages indicate the proportion of the total number of institution categories):

Item 120 (Workshops)

(a) more secondary education staff (37.7%) than basic education staff (30.3%) reported that the *most effective* teaching styles in INSET is ‘workshops’; (b) there is an even spread of basic and secondary education staff (27.1% and 25.6% respectively) whose response was one away from the *most effective* category for teaching styles in INSET ‘workshops’; (c) there is an even spread of basic and secondary education staff (16.8% and 14.9% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET ‘workshops’; (d) there is an even spread of basic and secondary education staff (8% and 6.2% respectively) whose response was one away from the *least effective* category for teaching styles in INSET ‘workshops’; (e) there is an even spread of basic and secondary education staff (17.7% and 15.6% respectively) reported that the *least effective* teaching styles in INSET is ‘workshops’.

Item 122 (Demonstration lessons followed by discussion)

(a) more secondary education staff (56%) than basic education staff (46.4%) reported that the *most effective* teaching styles in INSET is ‘demonstration lessons followed by discussion’; (b) more basic education staff (34.4%) than secondary education staff (27.4%) whose response was one away from the *most effective* category for teaching styles in INSET ‘demonstration lessons followed by discussion’; (c) there is an even spread of basic and secondary education staff (7.5% and 7% respectively) whose response was midway between *most and least effective* category for teaching styles in INSET ‘demonstration lessons followed by discussion’; (d) there is an equal spread (3.8) of basic and secondary education staff whose response was one away from the *least effective* category for teaching styles in INSET ‘demonstration lessons followed by discussion’; (e) there is an even spread of basic and secondary education staff (7.9% and 5.7% respectively) reported that the *least effective* teaching styles in INSET is ‘demonstration lessons followed by discussion’.

Item 124 (T.V. broadcasts)

(a) more basic education staff (44.1%) than secondary education staff (35.4%) reported that the *most effective* teaching styles in INSET is ‘T.V. broadcasts’; (b) slightly more basic education staff (29.1%) than secondary education staff (26.2%) whose response was one away from the *most effective* category for teaching styles in

INSET 'T.V. broadcasts'; (c) slightly more secondary education staff (11.9%) than basic education staff (8.5%) whose response was midway between *most and least effective* category for teaching styles in INSET 'T.V. broadcasts'; (d) there is an even spread of basic and secondary education staff (7.5% and 9.8% respectively) whose response was one away from the *least effective* category for teaching styles in INSET 'T.V. broadcasts'; (e) more secondary education staff (16.6%) than basic education staff (10.8%) reported that the *least effective* teaching styles in INSET is 'T.V. broadcasts'.

Item 125 (A combination of the teaching styles listed in this group)

(a) more secondary education staff (55.6%) than basic education staff (47.8%) reported that the *most effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'; (b) there is an even spread of basic and secondary education staff (19.1% and 20.1% respectively) whose response was one away from the *most effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (c) slightly more basic education staff (17.2%) than secondary education staff (12.6%) whose response was midway between *most and least effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (d) slightly more basic education staff (6.3%) than secondary education staff (3.6%) whose response was one away from the *least effective* category for teaching styles in INSET 'a combination of the teaching styles listed in this group'; (e) there is an even spread of basic and secondary education staff (9.6% and 8.1% respectively) reported that the *least effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'.

Average number of students in the class (es) taught (ANSCT)

When one reviews the specifics of the crosstabulated distributions for this rating scale item by ANSCT the following results emerge (percentages indicate the proportion of the total number of ANSCT categories):

Item 125 (A combination of the teaching styles listed in this group)

(a) more of those with 26 students or over (54%) than those with 25 students or less (46.1%) and those who do not teach (44.9%) reported that the *most effective* teaching styles in INSET is 'a combination of the teaching styles listed in this group'; (b) a

small proportion of responses, with a fairly even spread of those with 25 or less students, those with 26 or over and those who do not teach (18.4%, 19.9% and 22.4% respectively) whose response was one away from the *most effective* category for teaching styles in INSET ‘a combination of the teaching styles listed in this group’; (c) more of those with 25 students or less (17.2%) than those with 26 students or over (14.5%) and those who do not teach (12.2%) whose response was midway between *most and least effective* category for teaching styles in INSET ‘a combination of the teaching styles listed in this group’; (d) more of those who do not teach (8.2%) and those with 25 or less (8.2%) than those with 26 students or over (3.5%) whose response was one away from the *least effective* category for teaching styles in INSET ‘a combination of the teaching styles listed in this group’; (e) more of those who do not teach (12.2%) than those with 25 or less (10.2%) and those with 26 students or over (8.2%) reported that the *least effective* teaching styles in INSET is ‘a combination of the teaching styles listed in this group’.

Location

When one reviews the specifics of the crosstabulated distributions for these rating scale items by location the following results emerge (percentages indicate the proportion of the total number of location categories):

Item 122 (Demonstration lessons followed by discussion)

(a) more of those who work in an urban area (54%) than remote (48.5%) and rural (44.5%) reported that the *most effective* teaching styles in INSET is ‘demonstration lessons followed by discussion’; (b) there is an even spread of those who work in an urban, rural and remote areas (30.4%, 32.7% and 30.9% respectively) whose response was one away from the *most effective* category for teaching styles in INSET ‘demonstration lessons followed by discussion’; (c) more of those who work in a rural area (11%) than urban (5.9%) and remote (5.9%) whose response was midway between *most and least effective* category for teaching styles in INSET ‘demonstration lessons followed by discussion’; (d) there is an even spread of those who work in an urban, rural and remote areas (3.3%, 4.9% and 4.4% respectively) whose response was one away from the *least effective* category for teaching styles in INSET ‘demonstration lessons followed by discussion’; (e) more of those who work in a remote area (10.3%)