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The Development of Vocational and Technical Education in Qatar

By
Ahmed Mohamed Al-Marzooki

A thesis submitted for the degree of
Doctor of Philosophy

School of Education
University of Durham
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Dedication

To my mother, my wife with love and to my children Yasser, Reem, Mohammed, Hassan, Khlifa and Fatema.

Abstract

This thesis is concerned with Vocational and Technical Education (VTE) programmes to provide the State of Qatar with skilled and semi-skilled personnel to meet the needs of industrialisation, especially after the discovery of oil in 1949. The Government of Qatar faced the problem of utilising the technologies and sophisticated machines by skilled people from local communities, which imposed upon the Qatari Government a need to import skilled employees from different countries. The development of technical skills was one of the most vital areas of concern to the Qatari Government, especially after the country had recruited a very large foreign labour force. With the increasing demand for skilled Qatari citizens to fill many jobs necessary for the country's rapid modernisation, the Government of Qatar established a number of VTE institutions but the outcome was not satisfactory. The purpose of this study is to determine the reason why students do not enrol for this type of education, why there are high dropout rates of students from training programmes of VTE institutes, and why the standard of VTE graduates is not as high as expected.

A survey was conducted with VTE students and male and female staff in all VTE institutes. The data provided reasons for the problems with VTE programmes.

The major reasons were:

1. Lack of vocational guidance and counselling.
2. The social rejection of manual work, leading to low enrolments.
3. The increase of revenue of the country created many non-VTE jobs that could be filled by Qatari citizens.

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Declaration

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

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Chapter 1

Introduction

There is a famous saying that developing human resources is the real investment of a country or nation. Its truth lies in the fact that mankind is the creator and tool of development, and any country which neglects to develop its people will find it very difficult to develop anything else. The development of human resources is, of necessity, a major concern of all countries. Emphasis is needed on education for which policy, plans, strategy and processes are required to achieve the educational objectives which underpin the successful development of human resources. Any developing country with sufficient hard currency can import foreign skilled labour, but it is harder to train existing citizens to become a skilled labour force. The reason for this difficulty lies mainly in aspects of educational planning and social attitudes towards vocational and technical education and manual occupations. The implementation of a sound educational policy by the government will not necessarily give results in the short term although their efforts may eventually be rewarded.

As education has both vocational and cultural significance to the individual, it serves both economic and non-economic ends. Education plays an important part in moulding the human resource of an economy. However, no less is the contribution that education makes towards providing citizens with an understanding of the industrial technology and economic and social issues that affect them. The economic conditions of a nation determine its investment in education and training. In addition a good investment in this area can contribute to improving its economy and industrial performance in relation to the rest of the world.

1.1 Statement of the Problem

The state of Qatar is considered to be one of the largest Arab producers of oil and gas. These resources are, however, virtually the country's sole resources upon which its national income depends.

In 1949 when the first oil shipment was exported to Europe, the Qatari economy began to change from a very simple one, dependent on fishing, animal husbandry and pearl diving, to a very sophisticated one. The change meant that a large skilled labour force was required to install and operate the complex equipment necessary for the hydrocarbon industry. The government of Qatar was immediately faced with a demand for a technically-proficient labour force in a country whose skills were in subsistence farming, pearl-diving and fishing. The scale and immediacy of the need required drastic action and one of the most important government measures to solve the skill shortage was to establish a Department of Education in 1956. Whilst this provided Qatari citizens for the first time with the opportunity to acquire the knowledge and skills needed to participate in the new world into which Qatar was entering, it takes a long time for education to bear fruit and development could not be halted whilst waiting for the emergence of a generation of educated and skilled Qatari citizens.

As a result of rapid progress in the industrialisation and development of the country, there was an even greater need for skilled workers in both the public and private sector. Consequently the country became more heavily dependent upon foreign labour, creating potential and actual social, political and economic problems which will be explained in more detail in the next chapter. The government became aware of the imperative need to train Qatari youth to replace foreign workers in skilled jobs in the near future. At the same time, the government became increasingly aware of the dangers of relying solely upon the finite resources of the country's hydrocarbon deposits and of the need to use oil revenue to diversify so that the economy could become more broadly based. For both reasons, the government set up a number of institutions of vocational and technical education to fulfil the demand for skilled labour by preparing Qatari youth for the new jobs now available in the state and by retraining and improving the skills of existing workers so they could make a contribution to the rapid industrial growth of the country.

The hope of the government for these educational establishments was not entirely realised as the numbers graduating did not meet the country's demand for skilled labour. The following have been suggested by Qatari officials as the main reasons for this:

1. The standard of attainment of the graduates was not as high as expected.
2. The number of Qatari youth enrolling was disappointingly low.
3. There was a high rate of student dropout.
4. The people's attitudes towards the technical and vocational institutions was disadvantageous; the education they provided was considered second-grade.

All of the above factors meant that the government of Qatar had to continue to depend upon foreign labour to fill skilled jobs.

Thus, a study is needed to determine the present and future roles and practices of the institutions of vocational and technical education in the overall labour force programme and to find ways and means of enabling the institutions to fulfil the government's expectations of them.

New alternative strategies and action programmes are required for the Qatari vocational, technical and academic education system. There is a need to define the government's present actions regarding vocational and technical education, as well as to predict future prospects for this form of education in a country eager to develop industrially.

1.2 The Significance of the Study

There have been no previous comprehensive studies conducted in the area of vocational and technical education in Qatar. This study will be the first to comprehensively deal with the subject. This study should be value to those who are directly charged with the responsibility of planning and formulating Qatar's VTE policies and developing human resource programs as well as to other countries following similar VTE systems to that of Qatar.

1.3 The Purpose of the Study

The purpose of this study is to identify the problems of the vocational and technical education programmes in Qatar and to suggest how changes and improvements can be brought about.

More specifically, this study will address the following research questions:

1. To what extent have the low standards of the graduates from VTE come about as a result of poor facilities and low standards of teaching?
2. To what extent do graduates of VTE choose not to work in their field because of the availability of jobs in the public sector?
3. To what extent do VTE institutions suffer from a large number of drop outs because of the relatively easy access to public sector jobs for the small indigenous population?
4. To what extent do Qatari students try to avoid VTE because of its low status by dint of its manual nature?
5. To what extent is the low participation of women in VTE due to traditions which prohibit women from performing such jobs?
6. To what extent is the low enrolment to this type of education due to the lack of information about VTE programmes through mass media?
7. To what extent is the low enrolment to VTE institutions due to the lack of counselling and guidance in the preparatory and secondary schools?
8. To what extent is the low standard of teaching and training due to the lack of staff qualifications and experience and knowledge about programmes offered by VTE institutions?
9. To what extent do Qatari teachers and trainers try to avoid working in VTE due to the lack of interest in this sector of education by dint of low financial incentives and its low status?

1.4 Scope and Limitations of the Study

This study will be limited to the following:

1. The vocational and technical education system at secondary level and above in Qatar.
2. Vocational and Technical education under the supervision of the Ministry of Education, the Ministry of Health, the Qatar General Petroleum Corporation, and the University of Qatar.

1.5 Concepts and Definitions of Terms

The following terms have been defined as they will appear frequently in the study:

1. Ministry of Education

The Ministry of Education is the Qatari government body responsible for all education affairs from grades 1 to 12 of the national education system.

2. Labour Force

The Labour Force is defined by Naima (1983) as

> "the maximum workforce available to an economy. The working force is generally conceived as that portion of the population which is economically active. In turn, the term economically active population is generally understood to comprise all those persons who contribute to the labour for the production of economic goods and services including those unemployed but available for work" (p. 3).

3. Manpower

Manpower is an economic resource. It includes managerial, scientific, engineering, technical, skilled, and other personnel employed in creating, designing, developing, managing and operating production and service enterprises and economic institutions (Serwell, 1991, p.13).

4. Vocational and Technical Education.

Al-Hafar (1988) defined vocational and technical education as the section within the whole education system that guarantees to combine technical study with general academic knowledge and which is directly concerned with producing a skilled safety-

conscious, technically competent labour force of young graduates from vocational and technical education institutions for initial employment in industry, the economic and social sectors of society (p. 81).

In the United States the terms `vocational education' is defined by the American Vocational Association (1964) as that which is designed to develop skills, abilities, understanding, attitudes, work habits and appreciation of the knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. It is an integral part of the total education program and contributes towards the positive development of citizens by developing their physical, social, cultural and economic competence (p. 27).

Cooley (1915) defined vocational education as that training which will enable people to make the most of themselves as workers, citizens and human beings. In that sense education itself is vocational. Although its overall dimensions include social education and labour force considerations, its basic concern is for the people who provide the services required by society (p. 15).

Calhoun and Finch (1982) defined vocational education as concerned with preparing people for work and with improving the training potential of the labour force. It covers any form of education training or re-training designed to prepare people to enter or continue in employment in a recognised occupation (p. 22).

Husen and Postlethwaite (1985) defined vocational education as that which prepares young people and adults for useful occupations, particularly for skilled trades and semi-professional careers. It also may increase the knowledge and skills of those already employed in occupations of this kind (Husen and Postlethwaite, 1985, p. 2002).

Hassawi and Abu Sheikh (1988) conducted a study of the development of technical education in the Arab world and they concluded that there exists a wide range of differences in the understanding and interpretations of vocational education and technical education in the Arab countries (e.g. Egypt, Libya, Kuwait, Syria, Saudi

Arabia, Yemen use technical education, while Bahrain, Sudan, Oman, UAE, Somalia use vocational education), with Qatar using both terms. This is because each Arab country has its own pattern of development in education and because technical and vocational education are recent concepts in the Arab world. It has therefore been decided to present a unified definition of the theory and concept of technical education in all Arab countries. This definition is based on the memorandum of the Association of Arab Federation of Technical Education (1979) and on a definition which is commonly accepted by the concerned world bodies. This definition reads as follows:

> "Technical education is a type of regular full-time higher education offered by educational institutions for a duration of not less than two years after the higher secondary level and prior to university education, and it seeks to equip the students with scientific knowledge and practical skills that could enable them after completion of studies to be in charge of operation, production, maintenance and allied services .... The nature of work for the students undergoing this education will be a tie-up between the planners and specialists (university graduates) on the one hand and the skilled workers (vocational higher secondary graduates) on the other hand and they will have the ability to translate the production service schemes into reality and implement work in co-ordination with skilled workers" (Hassawi and Abu Sheikh, 1988, pp. 4,5).

Serwell (1991) defined vocational and technical education in general as being given in VTE institutions under the supervision of trainers or teachers to cover the areas of trade and industrial education, home economics, agricultural and business education (p. 8).

Thompson (1992) defined technical education as

> "preparing future citizens for useful and productive life through the acquisition of appropriate knowledge, skills, work habits and attitudes, usually with particular emphasis on preparation for employment to meet the manpower needs of industrialisation and modernisation in their societies" (p. 7).

It can be concluded from the above definitions that the vocational and technical education system is that which provides people with the knowledge and skills they need to practise a particular job and to develop competence to perform successfully in an occupation, including the vocational guidance and counselling that precedes it or is in parallel with preparation for employment or re-employment. It is usually given at the higher school or Junior College level.

5. Technicians

Al-Hafar (1988) defined technicians in a manner usually classed as "semi-professionals or para-professionals". For example a mechanical technician falls between the level of the skilled mechanic and the mechanical engineer. His work may involve helping the engineer to design and test new equipment, thus increasing the amount of research the engineer can accomplish. A technician needs more formal education than a craftsman but less than a professional engineer. Two year programmes are offered in colleges, Junior Colleges or technical institutions in all Arab countries (p. 132).

Fairchild (1991) argued that the technician is a person who works at a job which requires applied technical knowledge and applied technical skills. His work in this respect is somewhat akin to the engineer, but usually the scope is narrower. He also has the ability to read the plans and directions which are done by specialists and requires some manipulation skills and then take action necessary to implement the plan and perform the technical tasks (p. 13).

Olatunji (1988) defined a technician as

> "a person who occupied a position between that of the qualified scientist, engineer or technologist on the one hand and the skilled worker or craftsman on the other with education and training likely up to the end of secondary school may have post-secondary level training and hold a corresponding degree of diploma"(p. 33).

6. Craftsmen

Craftsmen represent the skilled labour of the manufacturing industry and account for more than one third of its manpower. They need to know how to use certain tools, machines, materials and techniques in different ways for different jobs. They are usually skilled workers who have completed an apprenticeship. The estimated demand for such labour is in the average ratio of ten craftsmen to every technician (Al-Hafar, 1988, p. 137).

The difference between a craftsman and a technician is that craftsmen are usually students or trainees who graduate from preparatory or elementary school and spend three years in the VTE school and then enrol in the artisan programme, limited to those

who are 15 years old; they fall between the skilled and unskilled labour, while technicians are usually students who study for two years after secondary school and are responsible for production and field operation, and have the ability to read plans which are prepared by specialists, put the plans into action or transfer what they learn to their normal work environment and take all the necessary action to implement the plans successfully (Al-Hafar, 1988, p. 185).

7. Vocational and General Education

Until recently the link between vocational and general education was quite tenuous. This is apparent in the fact that European countries administer vocational education after the end of compulsory schooling. If it is included in the school curriculum at all, it is often quite a distinct branch of secondary education (UNESCO, 1984, p. 17).

Gregoire (1967), in defining the relationship between vocational and general education, says that there have been a lot of differences of opinion on definition of the relationship since the beginning of this century. Some school administrators have insisted on keeping vocational education as a part of general education in the same manner as social science because education is a continuous process and divided into various stages, each stage constituting a logical preparation for the next, enabling VTE students to find their proper place in relation to the main branches of the education tree. Teachers and administrators of vocational education maintain that vocational and general education are two branches of the total education programme. Each of these branches is of equal importance in educating the work force (Gregoire, 1967, p. 34).

8. Links between education and the labour market

The links between education and employment are very difficult to identify. It is one of the most important and perennial topics discussed by experts in the economy and education, for example how education can provide people with competency and skills to develop and manage the economy and related services to be invested in the productivity of people. In reality this kind of link, however defined, is very difficult to

achieve because of each country's different economic and social circumstances and also different structures in the educational system.

Pasachoropoulos (1986) gives some recommendations for improving the link between education and the labour market.

> "1. Enhance the equality of primary and secondary general education including mathematics and science so that more efficient specialisation can take place later on.
>
> 2. Bring the private cost of education in line with the social cost especially at higher levels while providing student loans for everyone and selective scholarships for the needy.
>
> 3. Promote closer links between education and industry not by new or revised framework laws, a favourite European expedient, but by offering higher education incentives to experiment with new programme passing the market test" (p. 41).

Pasachoropoulos concluded his study with a final comment that to adopt these policies is not easy politically and this is the reason why the issue of link between education and the labour market is liable to be permanently controversial (Pasachoropoulos, 1986, pp. 411-414).

According to Braun (1987) the structure of the relationship between education and employment is complex. The truth is that each of them has its own autonomy but there is a possibility of congruity between them. Braun concluded that:

> "the process of education expansion is about the way in which the firms act as consumers of qualification rather than initiators of this expansion but at a later stage merely intensify the pressure for expansion by reacting to the qualification structure previously produced by the education system" (p. 130).

In Germany, as Bernem (1983) indicates, some time ago a new subject was introduced called Studies of Work in order to give vocational guidance to pupils during the last two years of their schooling and in order to prepare them for entry into a new world. Education in this subject was to be so comprehensive that the essential problems and facts of the working life could be demonstrated and realised. Visiting speakers such as vocational counsellors invited to school to give pupils general and personal guidance in

respect of choosing their line subject, linked with the career for which pupils prepare (p. 89).

Sanyal (1982) discussed the relationship between higher education and employment, arguing that there are four different or more or less conflicting points of view about relationships between higher education and employment which represent four schools of thought.

1. Education provides people with knowledge and skills that are needed to manage and develop services which are related to the economy. When we invest in education we are presumed to invest in human capital which will lead to investment in the productive capacity of people.
2. Education not only provides skills to perform different vocational jobs but also distributes social values and promotes and develops social mobility which is needed to obtain the right people for the right jobs.
3. Productivity is not attributed to people but to occupations. Education does not determine the productivity but people may be matched to jobs through criteria that may be associated with education.
4. The idea of correspondence between education and employment is an illusion which exists in the minds of school leavers and educational officials and has very little to do with performance on the job because they mostly apply to the hire of school leavers for definite occupations on the basis of certain educational qualifications (p. 443).

Gunawadena (1991) studied the relationship between education and the world of work in Sri Lanka. He said that in the past Sri Lanka had had two major curricula introduced at secondary level with the objective of making it easy to move from school to work. Pre-vocational studies were introduced as a compulsory part of the curriculum in all schools. According to this author, the government in 1981 made a proposal for the amendment of education in order to provide pupils with certain pre-vocational

education to make them proficient in simple skills relevant to vocation and to provide the non-academically oriented pupil with learning activities. The issue here is that the education system can help pupils in the transition from school to work by providing them with information about careers and opportunities for work experience which will enable them to have a realistic expectation of the types of careers available and the reality of the work environment (Gunawadena, 1991, pp. 78-85).

Kazis and Roched (1991) conducted a study of what they called the new US Initiative for transition from school to work. They said that because of a rapid technological change in the United States, firms started to focus on the need to improve the supply and the quality of entry level workers. There was a need for a skilled labour force to work in the factory and help to serve industry as technicians. New programmes have to be developed to provide accelerated learning for new employment prospects (Kazis and Roched, 1991, p. 5).

Jallade (1985) conducted a study of the transition from school to work. He argued that in the technical and vocational educational system combining school based instruction and work experience was always the basic principle of traditional vocational education in the form of work periods in firms which were integrated into school curricula. Most transition education schemes set up recently for school leavers at the end of compulsory schooling were designed according to this principle of alteration between work and training periods, the main objective of which was to ease the transition from school to work (p. 173).

Hassl (1989) discussed education and employment partnerships in USA: a programme for dropouts. He explained that the objectives of the Job Training and Partnership Act (JPTA) and education for employment work opportunities were based on the premise that young people learn best by actually doing and many work skill competencies can be integrated into vocational education programmes. The establishment of work competencies can provide students with the flavour of actual work experiences. Job specific skills and related competencies offer excellent opportunities for students to

acquire employment skills necessary for entry level employment. Typically students involved in these work experience options are near completion of both the academic and employment skill components of the programme (p. 58).

Wringe (1991) argued that an important objective for education was that young people ought to be prepared for the world of work by seeing how industry creates national wealth and they need to have a basic information about the economy and manufacturing industries. Wring suggested that it is necessary for students to be equipped to the best of their ability for a constructive place in society and to fit them to do a job or work. It has also been suggested by Wringe that efforts should be made to meet industrial and commercial needs by equipping the child with basic tools to do the job required, industry and commerce should be involved in curriculum planning at national and local levels and consideration should be given to the appointment of people with experience in management and trades unions as governors of schools. Wringe concluded his studies with an important comment:

> "Changes should take place in the content of what is taught at all levels - from the nursery onward - that would result in pupils making not only a more effective but also more willing contribution to the production of goods" (p. 33).

Wringe's view is echoed by McCulloch (1991, p. 111) and Korndorffer (1991, p. 121).

To meet the requirements of contemporary economic life successfully education must give training of the labour force more attention, which means the skilled worker in every society should know as much as possible about a specialisation. The links between economic development and education for work and training is very important because the links will help individuals to meet the demands of economic life for efficient production. This is the function of vocational education. Greenwood and Jeffries (1981) argued that to determine the effects of various education for work programmes on economic development several methods should be used:

1. The relative costs and benefits associated with the different types of programmes should be known, requiring extensive data from large-scale samples of participants.

2. The success of programmes, including placement rates, earning proportion of time in employment, wage rates and levels of transfer payments should be known. This information would provide a solid basis for designing the most effective vocational education programmes.

Gray (1993) argued that

> "Technical and vocational education needs to have close links with local industries and employers and to make full use of the cost economies possible in working with them. Just as important however are systems for collecting and analysing information about future manpower needs which can be used in good time in order to produce employees with the necessary skills at times and locations where those skills are required" (p. 252).

Close relations between employees and training organisations have obvious benefits in contributing to skilled staff materials and equipment as well as possible financial support from local industry, recognising the consequential advantage of better-skilled existing and future workers. This, in turn, needs close and well-structured links between employers and institutions. Local advisory committees are identified throughout the world as effective means for building these bridges (ibid, p. 253).

In summary, it can be argued that to have reliable professional workers we should offer them professional training and qualifications and a proper technical background to enable them to fill occupations to meet the demand of the rapidly developing society. Vocational education is a part of an individual's total education. Vocational education should prepare all individuals for employment. General education prepares us to live more intelligently as citizens and to understand and enjoy life. Vocational education should prepare us to work more efficiently. Both are necessary for the well-equipped citizen.

1.6 Organisation of the Study

Chapter 1 of this thesis gives the background to the problems of the shortage in the skilled labour force after the discovery of oil in Qatar and how the government tried to solve this problem.

Chapter 2 gives the reader general background information about the history of Qatari society before the discovery of oil, geographical aspects of the state of Qatar, socio-economic aspects, the educational system and the labour force in Qatar.

Chapter 3 discusses Vocational and Technical Education (VTE) in three categories:

1. VTE in industrial countries with particular reference to the UK, West Germany, Japan and the USA.

2. VTE in the Arab developing world with particular reference to Saudi Arabia, Kuwait and Egypt.

3. VTE in other developing countries with particular reference to Brazil.

This is done to acquire an overall picture of VTE, to set a context for the empirical research and to suggest recommendations for chapter 7.

Chapter 4 presents the design for the empirical research.

Chapter 5 presents the data analysis and summarise the major findings of the study.

Chapter 6 deals with interpretation and discussion of the major findings in the study.

Chapter 7 presents the conclusions and recommendations. It identifies possible resistances which might be held by some parties in the society. It provides a critique of the thesis as a whole, its strengths and weaknesses, and makes final suggestions for further research.

Chapter Two

The State of Qatar: A General Survey

Introduction

The purpose of this chapter is to supply background details of Qatar's socio-economic and socio-political history, the role played by education in national economic, human resource and industrialisation developments, and the manpower needs which have arisen in developing human resources. In addressing such a variety of related subjects and in order to understand the larger setting of this study, the chapter examines Qatar's location, cities, economy and education.

2.1 Geographical Aspects of the State of Qatar

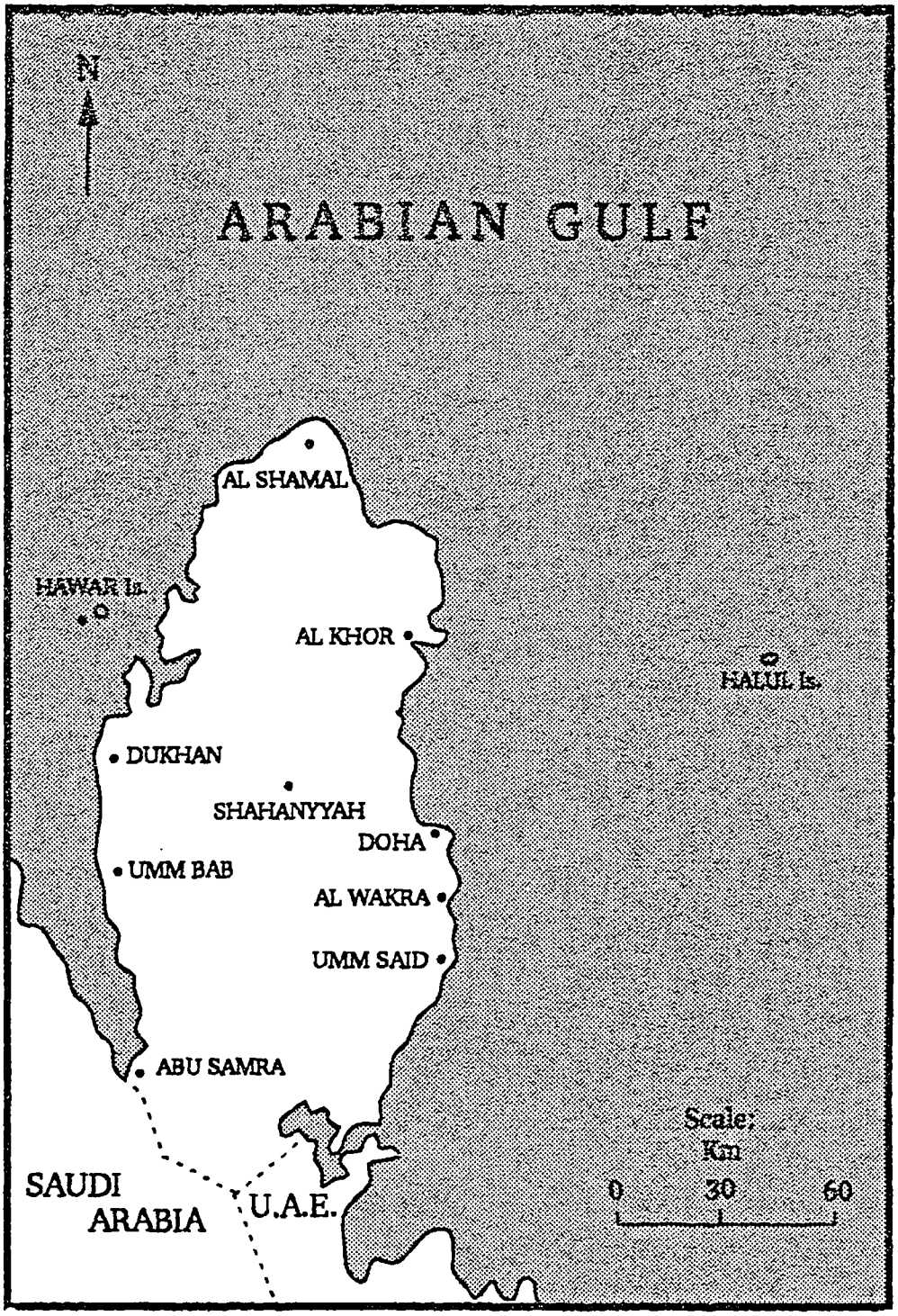
Location and Main Towns

The State of Qatar is a peninsula situated in the northern half of the Arabian Gulf. It is on the eastern side of the Arabian Peninsula with seas on the North, South and East whereas on the West it has common borders with the Kingdom of Saudi Arabia and on the South East with the United Arab Emirates. Qatar has a total land area of 11,437 sq. kms. including several islands namely, Halul, Huwar and Ash Sharauh. Among these islands Halul alone is inhabited. The Off-Shore Staff and Workforce of the Qatar General Petroleum Corporation (QGPC) live on Halul island. It is also populated by employees of some private firms which provide some ancillary services to the QGPC. Halul Island constitutes the centre for Oil export because of its proximity to the oil fields (see Figure 2.1).

Main Towns

Doha is the capital city and the seat of government. All the Ministries, Government Departments and foreign embassies are located in it. The total population of Qatar according to the census of 1986 is 371,863, most of whom (80 per cent), including many foreign nationals, live in Doha. The main commercial sea ports of Qatar handling the bulk of imports are also located in Doha. It also has all the cultural and commercial

Figure 2.1: The State of Qatar



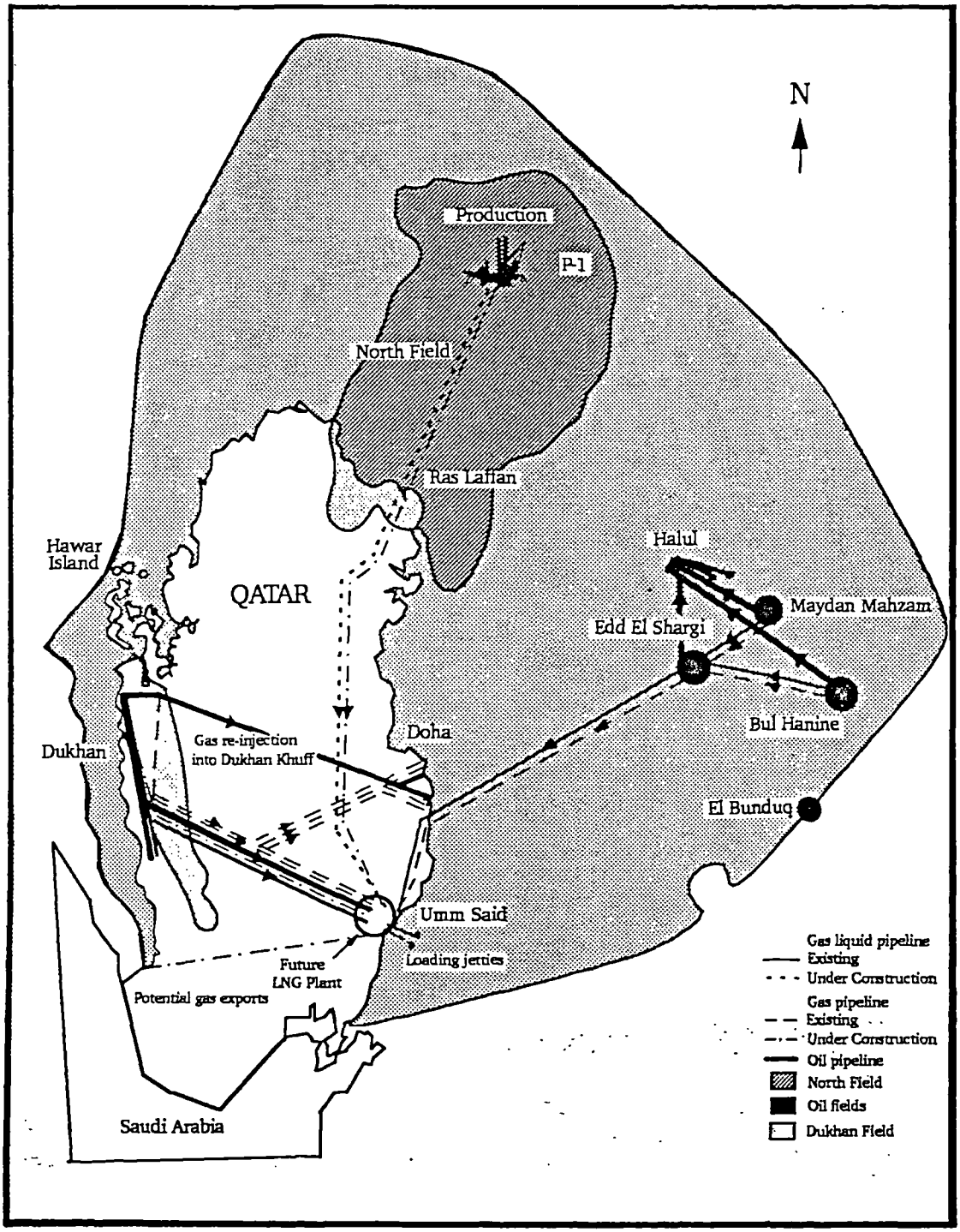
Source: Al-Sheeba, A. (1988) Coastal Geomorphology of the Qatar Peninsula, p.10.

centres besides the international airport which provides the main link with the outside world. Umm Said is the second most important town and is at a distance of 45 kms. from Doha. It became a fully fledged town with the growth of the oil industry. Most of the industrial establishments such as the Qatar Oil Refinery, Chemical Fertiliser, Petrochemical, Natural Gas, Flour Mill industries are located in it. It also has two important sea ports, one for the export of oil and the other for commercial goods. Most of the inhabitants of Umm Said are the employees of the various industrial establishments (see Figure 2.2). Al Khor is a coastal town 75 kms. north of Doha and is known for its fisheries and historical sites. It is populated by several tribes, the most important among which is the tribe of Al Mohannadi. Al Wakra is situated 15 kms. south of Doha on the road to Umm Said. It has a fishing harbour and some historical sites of archeological interest. Dukhan is 84 kms. west of Doha and is the centre for the On-Shore Oil Industry. It is populated by the employees of the Qatar General Petroleum Corporation and some Qatari Bedouin tribes, especially the Bani Hajir. Al Shamal is a modern town and is 107 kms. north of Doha. It is populated by several Qatari tribes, the most important among which are Al Saada and Al Fadala. Some government offices are located in it to provide services to the surrounding villages and areas. It also has a fishing harbour.

Demography

Qatar's population can be traced to overland migratory movements by several Arab tribes from the regions of Najd, Al Ahsa and Oman during the 17th and 18th centuries. The migrations were due to the numerous wars among the tribes and difficult living conditions in their homeland. However they could easily assimilate themselves to their new surroundings because of common factors of religion, language and history. Thus they formed a nucleus from which grew the population structure of the country. These migrations continued until the 19th century (Ministry of Information, 1989, p. 20).

Figure 2.2: Oil and Gas Operation Fields



Source: QGPC Annual Report (1993), p.15.

The native population of Qatar can be traced to two groups:

a. **Settled Arabs:** These are the Arabs who lived in the coastal areas and whose occupations were linked to the seas. They engaged themselves in activities such as pearl diving, fishing and trading.

b. **Bedouin Arabs:** These are the desert Arabs whose main occupation was herding in the desert, making tents of animal hair and hunting. These nomad tribes led an unsettled life since they were constantly moving from one place to another in the Gulf area and in the Arabian peninsula. After the discovery of oil both these groups merged into a single society and their lifestyles became uniform. They began to lead a settled life and the differences in origin disappeared slowly. The population of Qatar during the forties and prior to the discovery of oil was estimated to be 25,000 (Al-Isa, 1982, p. 44). In summary,

> "the Qatari society could be classified as a transitional society that is passing from traditionalism to modernity." (Naima, 1983, p. 11)

Religion

The people of Qatar follow the religion of Islam. It is a faith as well as a way of life for them. The Holy Quran is the main source of all of their laws, ethical codes and social norms. By and large they follow the Wahabi school of thought which is predominant in the Kingdom of Saudi Arabia. There is also a very small group of people who follow the Shi'ite school of thought.

Climate

The average temperature during the months from November to March varies between 18 and 26 degrees Celsius while humidity during that period varies between 55 and 66 per cent. During the summer months the trend is reversed as the average temperature rises to 32.8 degrees Celsius while humidity falls to 52.3 per cent. Rainfall is negligible and occurs during the winter months. The volume of rain is between 10 and 200 millimetres per year (Al-Kobaisi, 1984, pp. 41-43).

Landscape

Qatar's terrain is generally flat but stony, sandy and barren with natural vegetation consisting of only semi-permanent grazing land restricted to areas around wells, depressions, and short stream sources after winter rain. Sweet water is found in some areas especially in the northern parts where there are agricultural farms. There are no areas of high elevation in Qatar excepting Jabal Wakrah and Jabal Fuwayrit which may be described as semi-mountainous (Al-Sheeb, 1988, p. 12).

Because of the hot climate, minor amounts of rainfall and limited areas of grazing land with little agricultural farm production, the life of Qatari people was very harsh and it was difficult to start any kind of production, agricultural or otherwise.

2.2 Socio Economic Aspects of the State of Qatar

The Political System

The Al-Thani family has been ruling Qatar since the mid 19th century. Previously, it was under the rule of the Ottoman Empire. However, from the beginning of the twentieth century close relations developed between Qatar and Great Britain as a result of which a treaty was signed in 1916 that provided for Qatar to become a British protectorate. Its foreign affairs were under the control of Britain until independence was achieved in 1971. Qatar joined the Arab League in the same year and became a member of the United Nations Organisation in 1972. Sheikh Khalifa bin Hamad Al-Thani was elected as the ruler of Qatar by the ruling family, the armed forces and the people of Qatar (Industrial Development Technical Centre, 1981, p. 8).

In the political field, great emphasis is laid on "Shura" (rule by consent). Shura is one of the basic principles of governance in Islam. The first Shura council of Qatar was formed in 1972. This Council played a vital role in providing advice and guidance in accordance with Shura in the various activities of the state which had adopted all round progress as its prime goal. In politics Qatar projected itself as an independent sovereign Arab state and declared Islam as its religion and the main source for all its

laws and democratic system. Arabic is the official language of the state (Sinclair, 1977, p. 171).

Economy

The people of Qatar prior to 1949 were engaged in activities like pearl diving and fishing and in the cultivation of some vegetables and fodder for animals and date palms. They were also skilled in making boats and small ships. Trading and cattle grazing were also a part of their activities. In the remote villages and desert areas they had small scale dairy industries such as cheese and butter making, and constructing houses of animal hair. However, pearl diving and trading in pearls were their main occupations. Rains were very scarce and water was difficult to find. Most of the terrain was dry and the normal climate was extremely hot. The pearl industry faded out gradually because of the emergence of low priced Japanese synthetic pearls. In addition to that, the world economic situation went through a depression during the years 1920 to 1925 and this was followed by the second world war. All these factors contributed to the loss in the main source of income for Qatar and caused severe unemployment among the population which continued for two decades (Ministry of Information, 1989, p. 20).

The discovery of oil (1949) created a tremendous opportunity for employment and steady income for the population and took the country into a totally new phase. This immense change is described in the following manner: "In modern history no other Society has changed so rapidly in such a short period of time as has the Arab Gulf Society" (Al-Misnad, 1984, p. 16). The first production and shipment of crude oil took place in the year 1949; it was exported to Europe. From that time oil has been the mainstay of the economy of the country. Qatari society witnessed a rapid change from a simple traditional society and economy to a modern society with a rich wealth of oil reserves and commercial and industrial activities based on oil. The per capita income Gross Domestic Product of Qatar rose from 58,100 riyals in 1975 to 126,000 riyals in 1980 (Nafi, 1986, p. 11).

Oil production was increased further by the government, especially after large reserves were discovered in off-shore operations. Consequently, per capita income also increased from 126,000 riyals in 1980 to 201,198 riyals in 1986 (Al-Noor, 1986, p. 13), one of the highest levels in the world. The government embarked on a number of development projects. It laid great emphasis on human resources as one of the pillars in any developmental activity because without the availability of personnel, the benefits of this boom would not be of much value, and since oil is a temporary and depleting resource, the government worked out plans to diversify revenue through the development of industries (Ministry of Information, 1983, p. 17).

In this context, Al-Abdulla argues that:

> "Any economy that depends on only one source of its income will face a long term risk and that of the State of Qatar is no exception. The risk is that if anything should reduce oil revenues, the country will be unable to generate sufficient alternative sources of income. Because of such a risk, investment should be done in a way that ensures the long term prosperity of Qatar" (Al-Abdulla, 1988, p. 8).

The following discussion indicates the response to this.

The government set up modern industries in 1970 in the Umm Said area which were urgently needed to diversify the economy, e.g. a liquified gas complex, petrochemicals and fertiliser industries and a large steel plant, to operate independent of the oil industry. However, the oil industry provides 92 per cent of income for the State and 90 per cent of this revenue is spent on economic activities, discussed later. The oil sector by and large dominates the industrial and commercial sectors. Although industrial activity is still in an initial stage, its impact can be noticed clearly and the government is paying great attention to its development in order to ensure a stable future for the coming generation (Atari, 1989, p. 184).

The petroleum industry, with all its allied sectors, depends totally on foreign manpower because Qatar, as explained earlier, witnessed a rapid transformation from a simple traditional society to a very highly developed country, especially in the oil sector, within a short span of time. Such a rapid change created a huge demand in skilled

manpower in order to operate the sophisticated machinery for the production of oil. Total dependence on foreign manpower in all fields was inevitable because the indigenous human resources were very limited at all levels in the different specialised areas. Qatar was still in a nascent stage; programs for educational and vocational training were in a formative phase, hence expatriate developmental plans were implemented as scheduled. It must also be mentioned here that the social and psychological attitudes of the indigenous population were also not conducive to the employment of local nationals in many jobs because they were very selective in their response to the job opportunities that were available because of some social factors which will be explained in more detail in chapter six. Educational policies had to be formulated with a view to changing such attitudes so that local citizens would take up professions that were hitherto shunned by them and thus reduce the dependence on foreign manpower.

General Features of the Qatari Economy

After the oil boom, the government was in a position to allocate huge sums of money for economic and social development. When economic activity increased, it was followed by an increase in population but the dependence on expatriates increased and had its inevitable impact on the general structure of the population (Gulf Organisation for Industrial Consultancy, 1991, p. 13).

Diversification of the sources of national income and expansion of the production base in Qatar have received close attention by the government since the seventies. It has sought to achieve these goals through balanced economic development and an integrated approach to the various sectors of economic activity, e.g. the establishment of natural gas, the development of chemical fertilisers, petrochemicals and natural gas liquids industries to reduce the dependence on oil revenues. The first task taken up by the government was to build up the necessary infrastructure both in the area of human resources and the basic needs of the society such as water, electricity and other sources of energy, besides laying streets, roads and highways and developing ports and

communications. Development of human resources naturally required well studied plans for the education and training of the population. Similarly in the area of industry it was necessary to equip the population with all the prerequisites for the execution of industrial projects. In trade and finance also the government's plans achieved a high degree of stability and prosperity. Excellent health care facilities for the public besides free education and subsidised prices for essential commodities were some of the benefits that emerged from all the above plans. The government gave priority to strengthening relations and achieving close cooperation with the sister Gulf States and also with the rest of the Arab World. In the area of industries, fertilisers, iron, steel and petrochemicals, cement and oil refineries received top priority in order to build up the economic base of the country and to provide job opportunities for the coming generations, to diversify national income and to utilise the surplus oil. The government also supported medium and small scale projects by issuing the Ordinance No. 11 of 1980 which granted the private sector an important role in industrial development and in the economic progress of the country. This Ordinance provides several incentives to the private sector (Gulf Orgnisation for Industrial Investment in the GCC Countries, 1986, pp. 105-108).

Since oil is a commodity subject to many fluctuations of price for technological, political or economic reasons, diversification of sources of national income reduces the effects of such fluctuations. It also ensures a stable future for future generations when the oil wealth may not be sufficient to face new challenges. However, the hydrocarbon materials (oil and gas) constitute the main source for all extraction industries in the country, and industrial production developed rapidly from 1973. Aluminium, Urea, Iron, Steel and Cement industries were commissioned and many oil refineries were all set up. This was followed by the Petrochemical Liquid Gas industries in 1980 (Qatar General Petroleum Corporation, 1986, p. 7). The main industres in Qatar are given in Appendix A

Industrial Incentives

The State of Qatar provides many incentives in order to promote conditions favourable for industrial development. Some of the incentives are:

1. Allotment of a suitable plot of land at a nominal rent (not exceeding QR 50 per year) for industrial projects.
2. Technical support for projects through investment and feasibility studies prepared by the Technical Centre for Industrial Development at the Ministry of Industries.
3. Setting up of necessary and suitable Industrial Areas equipped with all necessary amenities such as water, electricity and staff accommodation.
4. Exemption from customs duty on all equipment and materials imported through industrial firms.
5. Exemption from Income Tax on a project for a minimum period of five years, if required.
6. Provision of necessary guarantees for all foreign loans required for industrial projects.
7. Facilitation grants by loans from local banks on easy terms.
8. Removal of restrictions on currency transfer in respect of foreign companies from and to Qatar.
9. Facilitation of employment of foreign manpower as required for industrial projects.
10. Facilitation of shipment services (loading and unloading) at all the sea ports in the Umm Said area.
11. Imposition of customs tariffs on all products imported from abroad which are similar to local products manufactured through industrial ventures.
12. Granting of priority to all government purchases of local products on the condition that prices do not exceed five per cent more than similar products imported from GCC countries and do not exceed ten per cent on prices of

products imported from foreign countries (Gulf Organisation for Industrial Investment in GCC Countries, 1985, pp. 33-45).

The State of Qatar has paid great attention to the provision of a basic infrastructure of the economy as an essential condition for industrial development. It considers this as an important element without which industrial projects cannot be implemented. It has also paid attention to social and economic development in general, constructing roads, sea ports and providing drinking water from desalination projects as well as the provision of electricity, schools, hospitals and all other amenities in order to keep pace with industries and development.

2.3 Education in the State of Qatar and Emerging Research Questions

Islam is the religion of the state of Qatar and it constitutes the basic foundation for all aspects of life for the people of Qatar. It urges Muslims to seek knowledge and usefully employ themselves in the service of the country. Islam is the foundation and the root of Qatari education, it supports teaching and learning and encourages work in different activities so long as they are implemented in a framework of Islam.

Historical Background

Educational activity began in Qatar through small schools known as "KATATIB". These schools offered religious education consisting of reading the Holy Quran and the traditions of the Prophet (May Peace be upon Him) by some religious scholars. It was an improvised system of education financed by some wealthy individuals. They paid the salaries of teachers and hired premises, besides purchasing the necessary furniture and stationery. Gradually these schools also began to teach basic skills in reading, writing and some arithmetic.

An all-age modern school was established in the year 1913 which was called "Al Madrasa Al Athariya Al Haditha". This school continued to function until 1938. Its basic program was to prepare cadres of Muslim Missionaries, Preachers and Scholars. Another school, namely "Madrasatul Al Islah Al Mohammadia" Primary School was established in the year 1947. It was the first semi-regular school prior to the marketing

of oil in 1949. The government took over the responsibility of education from 1952 onwards. A four member committee was constituted to supervise education and the first regular school was established (Naji, 1985, p. 228).

Modern Education

Modern education began in Qatar in 1956 with the establishment of the Ministry of Education which was given full responsibility for organising education in the country. The present ruler of Qatar was its first Minister of Education. Since it had to be organised from the beginning, and since there were no specialists to prepare curricula, Qatar depended on the curricula of the other Arab countries which had already made progress in education. It was an interim phase until the development of specialists in planning curricula suitable for the Qatari society and its cultural, social, political and economic needs (Mursi, 1979, p. 5).

The government provided all of the facilities for the spread of education. Monthly stipends were paid to students besides making education free and also providing free food and clothing to all students. Transport was also provided for all students to commute to school. These incentives contributed to the opening of schools in all the urban and rural areas. The number of students increased rapidly from 1956. Table 2.1 indicates the number of students in the government schools at the various levels from the year 1986-87 to 1990-91 (Naji, 1985, p. 229).

Girls' Education

Girls in Qatar used to study at home with the help of women teachers known as "Al Matawea" i.e. a lady who is well versed in religion and in general knowledge. This situation continued until a primary school known as "Kuttab" was established in 1938 by a respected and well known lady of Qatar, namely Mrs Amina Mahmood Al Jaidah. Girls joined this school in large numbers until 1957. Later on, many similar schools for girls were established. In 1957 the first regular school for girls was opened (Naji, 1988, p. 3).

Levels of Education

The levels of education in Qatar are as follows:

1. Primary Level: 6 years. Age group between 6-12 years.
2. Middle School Level: 3 years. Age group between 12-15 years.
3. High School Level: 3 years. Age group between 15-18 years.

Compulsory Education

Education in Qatar is free at all levels and to all nationalities without exception. No pupil who has attained the age of general education is allowed to leave school without completing the Higher Secondary School, i.e. before reaching the age of 18 years. Exemption is granted only after scrutiny with the permission of the Minister of Education. This is done after a personal comprehensive case study of the pupil. Thus it can be said that education is compulsory from the ages of 6 to 18. The government also provides free stationery, text books and conveyance, besides monetary assistance to needy pupils (ibid, p.4).

Administration of Education

Figure 2.3 shows the organisational structure of the Ministry of Education and the powers granted to the officials at different levels.

Administrative Regions

The Schools of Qatar have been classified under various regions according to their locations in order to facilitate administration and supervision. There are five such regions:

1. Doha Region.
2. Umm Salal Region.
3. Al Khor Region.
4. Al Shamal Region.
5. Dukhan Region.

Each region is in the charge of a Director who has the necessary power and authority to look after the schools under his jurisdiction, thereby reducing the burden on the

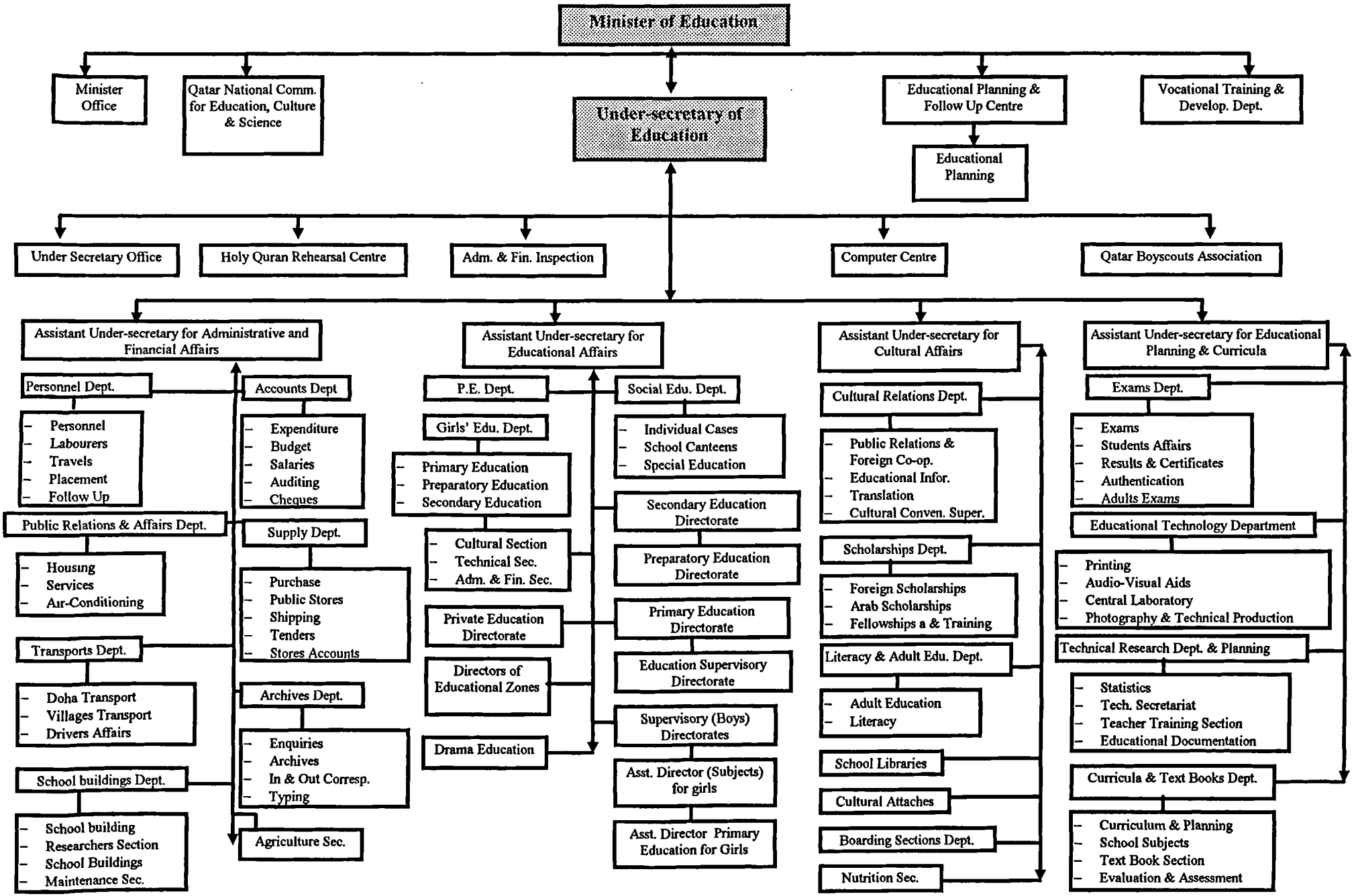
Ministry. There is also an inspection team consisting of male and female inspectors who are specialists in the various subjects taught in the curricula. They supervise the work of the teachers in the various regions. Figure 2.4 shows the educational regions in the State of Qatar (ibid, p.7).

Table 2.1: Government Schools and Classrooms 1986/1987 - 1990/1991

Year	1990/1991	1990/1991	1988/1989	1987/1988	1986/1987
Education level					
Primary					
Boys schools	56	55	51	51	46
Classrooms	682	690	681	655	614
Girls schools	49	49	46	46	43
Classrooms	651	657	631	605	567
Preparatory					
Boys schools	23	23	21	20	21
Classrooms	265	250	238	222	215
Girls schools	27	27	24	23	22
Classrooms	267	256	238	223	213
General secondary					
Boys schools	14	14	14	12	10
Classrooms	163	151	146	138	125
Girls schools	20	20	19	17	16
Classrooms	219	206	191	185	168
Specialised schools					
Boys schools	3	3	3	3	3
Classrooms	34	34	35	33	31
Total schools	192	191	178	172	161
Classrooms	2281	2244	2160	2061	1935

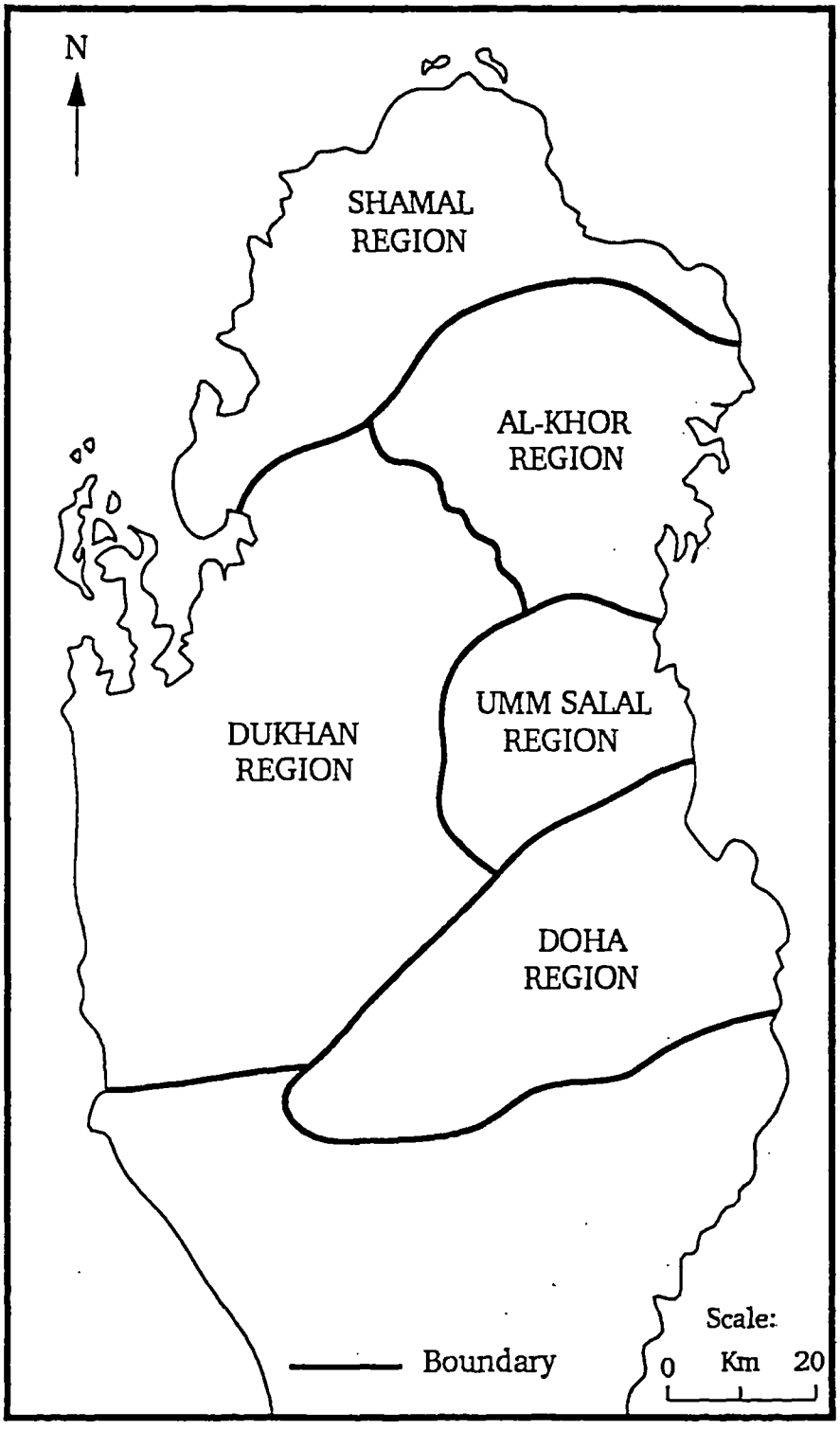
Source: Qatar Central Statistical Organisation Annual Statistical Abstract, 1992, p.10 Table 37.

Figure 2.3: The Organisational Structure of the Ministry of Education and the Power Granted to the Officials at Different Levels.



Source: Morsi, M. (1990) *Education in the Arab Gulf States*, Education Research Centre, University of Qatar, p.304.

Figure 2.4: Distribution of Educational Regions by Location



Source: Ministry of Education, in co-operation with Qatar National Commission for Education,Culture and Science (1992),p.7.

University Education

The state of Qatar established two colleges of education in 1973 (one for boys and another for girls). This was considered as an urgent need in view of the non-availability of Qatari teachers and total dependence on foreign teachers in large numbers (Al-Misnad, 1984, p. 348).

The Main Problems of Education in the State of Qatar

Education in Qatar is experiencing several problems, the main areas being the following:

1. Unwillingness on the part of pupils to study in the science stream at the Higher Secondary Level, in spite of the country's need for science graduates. Qatari boys prefer to study in the literary stream because of the difficulty they face in science subjects, especially in mathematics, chemistry and physics. Many boys who do study in the science stream at the Higher Secondary School Level ultimately fail in the final exams. In order to alleviate this problem the government provides monetary incentives to students studying in the science stream. It also pays a 20% additional salary to science graduates. In some organisations such as the Qatar General Petroleum Corporation newly appointed Qatari staff are paid the salary of senior staff at two grades higher than the normal pay given to the graduates in humanities and management studies. This serves as an incentive for students to take up science studies. There is no doubt that with rapid economic growth there will be more intake for science subjects.
2. Dropouts: School dropouts pose a serious problem in all the Arab Countries with varying degrees of intensity at different levels. However in Qatar, a higher number of boys drop out of school than girls. Table 2.2 shows the number of dropouts from schools in Qatar at all levels (Mursi, 1989, pp. 14-15).
3. Problems of education in the rural areas: The Middle and High Schools in the rural areas of Qatar are facing practical difficulties due to the small numbers of pupils in the schools and also due to the lack of commitment on the part of the teachers. These are serious and persistent problems.

4. Low turnout in specialised schools: The School of Industrial Crafts, School of Business Studies and the Institute of Religious Education suffer from a lack of students, as is the case with the science stream, explained earlier. This is in spite of the many incentives offered by the government. The reason for this situation may be attributed to the general attitude towards these branches of learning as compared to other subjects which provide opportunities for students to continue thier education at the University and to take up prestigious positions in the government later on. However, this attitude is misjudged because those who pass out from these institutions are also entitled to continue their studies at the University.

5. Fall in professional standards: It is noticed that a large percentage of teachers do not possess the necessary competencies and professional standards. In other words, teachers fail to keep themselves up-to-date with information and knowledge and do not enhance their abilities. Needless to say, this has a negative impact on the quality of the students. This problem can be solved only by providing in-service training programmes for such teachers. The Government of Qatar has started implementing several such programmes.

6. Inadequate number of indigenous teachers: The lack of a sufficient number of indigenous teachers to handle teaching in general and technical education is yet another problem that engages the attention of the Government of Qatar. The statistics indicate that the number of expatriate teachers is very large in the Secondary and Technical Schools; and in the Middle Schools. Their number at the Primary level has reduced considerably. This problem will however be solved gradually with the graduation of steady numbers of Qatari teachers from the College of Education (Mursi, 1989, p. 16).

Table 2.2: Students Enrolled and Dropouts in Government Schools by Sex, Level and Grade 1990/1991

Level and Grade		Dropout		Dropouts		Enrolled
		Female	Male	Female	Male	Female
Primary						
Grade I	7	6	183	169	2,620	2,607
Grade II	10	11	347	358	3,316	3,261
Grade III	9	9	300	311	3,276	3,353
Grade IV	7	10	231	343	3,095	3,379
Grade V	9	10	271	344	3,115	3,370
Grade VI	8	10	211	312	2,771	3,085
Preparatory						
Grade I	5	9	138	292	2,933	3,347
Grade II	8	11	209	258	2,569	2,354
Grade III	11	15	271	279	2,438	2,161
General Secondary						
Grade I	7	8	155	145	2,122	1,810
Grade II	9	7	140	87	1,636	1,236
Grade III	9	11	137	147	1,606	1,259
Specialised schools						
Preparatory						
Grade I	-	10	-	4	-	39
Grade II	-	5	-	2	-	28
Grade III	-	15	-	14	-	91
Secondary						
Grade I	-	16	-	38	-	243
Grade II	-	6	-	12	-	216
Grade III	-	4	-	11	-	250

Source: Qatar Central Statistical Organisation Annual Statistical Abstract 1992, p.15 Table 13.

2.4 The Labour Force in the State of Qatar

The needs and trends of the labour force in Qatar is related to the requirements and nature of development, since the state has worked towards the acceleration of development in the various fields of industry and construction. Many studies have discussed the subject of the labour force in Qatar, yet accurate data are still lacking because most of the studies depend on estimation and prediction.

Since 1949, when oil was exported to Europe, the professions have become more complicated. This new situation forced the government to introduce foreign labour from outside in order to operate and maintain the highly sophisticated and modern technology (Al-Hussaini, 1989, p. 12).

In its policy of diversification of economy the state has encountered the problem of the scarcity of skilled local manpower. The state was forced to use a skilled and unskilled foreign labour force in order to operate the huge establishments in the various fields (Al-Hussaini and Al-Kobaisi, 1989, p. 26). This foreign manpower was necessary in developing, planning and promotion of the various fields. Similarly, unskilled labour was required for the fields of construction and manufacture (Atari, 1989, p. 186). In spite of the oil-based wealth, the main obstacle to development was the low population, and consequently, a shortage of national manpower (Zahlan, 1979, p. 122).

The population of Qatar was estimated at 25,000-30,000 people in 1949 (El-Malakh, 1979, p. 19). One of the development problems was the reluctance of the Qatar people to work in the vocational fields (Al-Hussaini and Al-Kobisi, 1989, p. 26). The reason for this had nothing to do with the values of the society, since these professions were widely practised during the pre-oil era, (Al-Musa, 1984, p. 35) but with the new situation and the abundance of wealth, new behavioural habits developed. Manual work has been viewed as a low-ranking profession (Al-Khdem, 1992, p. 10).

Also the availability of job opportunities for Qataris in the government departments and their flourishing financial situation have furthered the need for manual jobs (Al-Kobaisi, 1984, p. 424). Consequently, the demand for foreign labour has increased, in order to work in the infra-structural projects, the public utilities and basic services (Al-Hussaini and Al-Kobaisi, op.cit., p.9). Since there was no population planning or

policies to control the number of foreigners in the country, the number of expatriates has increased greatly. They have constituted more than 50% of the total population. The indigenous Qatari workforce was only 15% (Ferjani, 1983, p. 22).

There was an abundance of foreign manpower, especially from Asian countries. The Qataris have the general feeling that they are a minority in their own country, and that there is a danger to the Arabic values of the society (Naima, 1983, p. 43).

Al-Naima concludes that many expatriates have no strong bonds with work environments. Negative effects stem out from this situation, such as:

1. Weakness in production and work efficiency.

2. Inability to interrelate with others psychologically, socially and culturally.

3. Lack of stability due to psychological pressures (Naima, 1983, p. 73).

Abdel Rahman says that the small percentage of the local manpower and the ineffective role of women have increased the problem. Foreigners have poured in to those Gulf states which offer attractive incentives. The problem of foreign manpower, in addition to its economic and social aspects, has political implications that raise big questions about the identity of the Gulf states. The prevailing educational system has failed to provide skilled labour, and the issue of foreign labour has continued as a challenge (Abdel Rahman, 1989, pp. 24-25).

Meanwhile, there is no way to stop the influx of foreign labour to the Gulf states. This could be done if the development programs were completely stopped. The development process necessitates the presence of human resources which cannot be provided in short periods of time due to the scarcity of population (Al-Kobaisi, 1984, p. 437). It is almost impossible to maintain economic programmes in Qatar and to gain encouraging results without depending on foreign labour (Azzam, 1980, p. 27).

The obstacles hindering the full utilisation of national manpower can be listed as follows:

1. Education has only recently has been introduced to Qatar. It will take some time until qualified personnel are prepared.

2. University graduates are keen to work in government departments. They refrain from working in public projects.

3. There are no plans and studies for preparing qualified leaders to take the responsibility for development (Al-Kuwari, 1983, p. 98).

In spite of these factors, the state of Qatar has been working for human development. Technical education and vocational training were highly praised by Government officials together with concentration on the role of women in the development of the country, the replacement of foreign labour, and the enlightening of the citizens about the importance of technical and manual professions (Naima, 1983, p. 101).

In spite of the development of girls' education and the increase in the number of female graduates, the role of women in enhancing development is still limited. We should not overlook the society's traditions, habits and values which are highly conservative regarding the work of women. In the past this role was recognised greatly. Women took the responsibility for families when men used to sail for pearl diving for long periods. With the exploitation of oil, the woman's role was confined to home activities, caring for children, and the practising of small professions considered suitable for women (e.g. teaching the holy Quran, sewing and butter making). Lately, and with the abundance of foreign labour, which is characterised by different cultural backgrounds and behaviours, women's role has been confined to household activities.

The few jobs available for women outside the home are centred on schools and hospitals. In 1981, working women constituted 4.2% of the total population of 48,000 inhabitants, which was 10.7% of the total workforce of 18,910 people. In other words, women constituted 1.7% of the economically active people in the country (121,572 people) (Al-Kobaisi, 1984, p. 426).

Statistics indicate that the population of Qatar has increased greatly during the last 3 decades. In 1955, the population amounted to 40,000 inhabitants compared to 25,000 inhabitants in 1951. In 1961, the number increased to 100,000, and in 1975 to 150,000, and 1985 to 240,000 inhabitants. The latest statistics in 1986 indicated that there were 369,079 people in Qatar (Al-Hussaina and Al-Kobaisi, 1989, p. 26).

The expatriates in Qatar constitute different nationalities, but most of them are from Pakistan, Iran, India, Palestine, Lebanon and Egypt. The number of Europeans was estimated as 1500 in 1973, the majority of them being English. Normally, European expatriates stay for short periods while other foreigners reside for longer and permanent periods (El-Mallakh, 1979, p. 8). In 1980 non-Qataris constituted 84.5% of the working force. For the execution of the development projects, Qatar needs 453 foreigners for every 100 Qataris. Non-Qataris are one and a half times greater in number than the Qataris (Atari, 1989, p. 187).

Due to the large volume of industrial projects and the fast rate of development, it is difficult to nationalise all the available posts, even in the long term. The state plans to appoint the nationals, especially the university graduates, to the leading posts in the government and mixed sections (Mohammad, 1989, p. 13).

Periera, see Table 2.3, forecasts that the population of Qatari nationals will increase in 1995 to reach 111,900, compared to 57,000 in 1975. In 1995 the expatriates will reach 490,100 people compared to 122,800 in 1975. The table indicates that the more the Qatari population increases, the more dependence will be placed on Arab and non-Arab manpower, and this will last for years. This situation requires the planning for development of national manpower and its direction to the required fields. Also mechanisation should be adopted to lessen the dependence on foreign labour.

Table 2.3: Structure and Distribution of Labour in Qatar 1975/1995

Year	Qataris	Non-Qataris	Total Population	Percentage of Expatriates
1975	57,200	122,800	180,00	68.2
1980	67,700	175,300	243,000	71.1
1985	80,000	250,000	330,000	75.8
1990	94,600	350,400	445,000	78.7
1995	111,900	490,100	603,00	81.4

Source: Periera, W. Associates, National Growth Forecasts, May 1977, p.23.

Table 2.4 indicates that the employment in Qatar in 1970 was estimated to be around 48,200, of which 8,200 were Qataris (17%), while Non-Qataris were 40,000, (93%).

In 1975 the numbers in employment in Qatar were around 66,300, of which 12,500 were Qataris (18.9%), while Non-Qataris were 53.800, (81.1%).

Table 2.4: Employment in Qatar by Nationality, 1970 and 1975

	1970	%	1975	%	Rate of increase 1970-1975
Nationals	8,200	17.0	12,500	18.9	8.8
Non-national	40,000	93.0	53.800	81.1	6.1
Total	48,000	100.0	66,300	100.0	6.6

Source: Birk, J. and Sinclair, C., 1980, Arab Manpower, Croom Helm Ltd., London, p.68.

More than half of all the employed nationals work for the government, and the proportion in the public sector is growing. Migrants work almost exclusively in the private sector since they comprise 90% of the total work force. Table 2.5 shows that in 1975 the total labour force working for the public sector was estimated to be around 10,810 from both nationals and non-nationals. Nationals were 6,760, (54.1%) and non-nationals were 4,050, (7.5%). Those working in private sectors were 55,490 with the national Qatari labour force at 5,740 and non-Qataris at 49,750.

Table 2.5: Employment in Qatar by Sector and Nationality, 1975

	Public Sector		Private Sector		Total
	No.	%	No.	%	
Nationals	6,760	54.1	5,740	45.9	12,500
Non-nationals	4,050	7.5	49,750	92.5	53,800
Total	10,810	16.3	55,490	83.2	66,300

Source: Birk, J. and Sinclair, C., 1980, Arab Manpower, Croom Helm Ltd., London, p.68.

With the exploitation of oil and the commencement of the development process, many Arabs, especially Palestinians and Egyptians joined the government departments together with the other activities such as commerce, industry and services which are related to the private sector. Table 2.6 shows that the Arabs, other than nationals, in

1980 accounted for 29% of those working in government departments. The Egyptians, Jordanians and Palestinians constituted 78% of the Arab migrants (7,900 people). In 1981 the number of the Arabs amounted to 9,327 in the government sector (53%). Between 1980 and 1985 the Arab share of the non-national population rose slightly (Birks, 1988, p. 10).

Table 2.6: Arab Employment in the Government Sector in Qatar by Nationality, 1980-1983

Nationality	1980	%	1983	%
Oman	43	0.6	405	4.4
Bahrain	237	3.1	340	3.6
Other GCC	130	1.7	126	1.4
Yemen	259	3.4	233	2.5
Palestine	1440	19.1	1830	19.6
Jordan	1243	16.5	1182	12.7
Egypt	3491	46.3	4328	46.4
Sudan	296	3.9	414	4.4
Syria	132	1.7	170	1.8
Other	277	3.7	299	3.2
All Arabs	7548	100.0	9327	100.0

Source: Seccombe, J., 'International Migration, Arabisation and Localisation in the Gulf Labour Market', p.178 in B.R. Pridham (ed.), The Arab Gulf and the Arab World, Croom Helm, London, 1988.

Table 2.7 shows that the number of employees in the government sector has been increasing from 1975 to 1987 (Mohammed, 1989, p. 15). Most of the expatriates work in the modern economic sector, in addition to agriculture and fishing, while most Qataris work in the government sector, in addition to the traditional sector (Azzam, 1980, p. 27).

Table 2.7: Government Employment in Qatar, 1975- 1987

Year	Qatari	Non-Qatari	Total
1975	6,735	3,761	10,496
1976	7,711	4,816	12,527
1977	9,534	7,080	16,264
1978	9,534	8,472	18,006
1979	10341	9,800	20,141
1980	10,818	10,645	21,463
1981	11,152	12,727	23,879
1982	12,552	17,668	30,220
1983	13,138	20,329	33,467
1984	13,763	19,272	33,035
1985	14,050	18,782	32,832
1986	14,281	18,268	32,549
1987	16,027	21,787	38,014

Source: Mohammed, H., (1989) Human Resource Planning and Development, p.15.

Table 2.8 shows that the distribution of the national work force is concentrated on the public and government sector, while the migrants work in the technical fields in the mixed and private sectors, in addition to many manual and vocational fields. The Arab migrants are concentrated in the government sector. There are social factors affecting this distribution because most vocational occupations done by non Arab and Arab workforce evince the same feelings toward vocational and manual work that Qatari people have. Also, most of the Arab labour force are well educated. Table 2.8 also shows that there is an increase in the number of working women, both Qataris and non-Qataris. Qatari women are increasing in the fields of education and health services (Mohammed, 1989, p. 14).

Table 2.8: Distribution of Employers According to Sectors, Nationality and Sex, 1985

Sector	Qataris		Expatriates		Total		Gross Total
	M	F	M	F	M	F	
Government	10,736	3,314	15,403	3,376	26,142	6,690	32,832
Military	6,000	0	0	0	6,000	0	6,000
Mixed	419	0	4,376	79	5,708	79	3,848
Private	1,812	1	65,053	889	66,868	890	67,758
Total	19,880	3,315	84,835	4,344	10,4718	7,659	11,2377
% of total	17	3	76	4	93	7	100%

Source: Mohammed, H., (1989) Human Resource Planning Development, p.14.

Naima (1983) mentions that the young population of Qatar amounts to about half of the total. The migrant active age group is over 72.40% of the total (see Table 2.9). The female role in economic activity is minimal. 21.4% of Qatari working women are in the age group of 15-59 years, while the percentage of non-Qatari women in the same age group is 12.85% (p. 59).

Table 2.9: The Percentage of the Three Age Groups for the Qataris and Non-Qataris and the Total Qatari Population (1975)

Age	Qataris			Non-Qataris			Total Popula-tion		
	M	F	Total	M	F	Total	M	F	Total
Under 15	26.61	25.71	52.33	13.67	12.48	26.15	18.91	17.85	36.76
15-59	21.27	21.42	42.69	54.55	12.85	72.40	44.03	16.32	60.35
60 and over	2.46	2.53	4.99	0.99	0.46	1.45	1.59	1.30	2.89
Total	50.34	49.66	100.00	74.21	25.79	100.00	64.53	35.47	100.00

Source: Naima, Ahmed, Human Resources Development: The Case of Qatar (1983), p.60.

Table 2.10 shows the volume of the workforce for the year 1986. The number of employees amounted to 201,258 in 1986, while the unemployed (students, housewives, etc.) reached 65193, with a total population of Qatar in 1986 of 369,076. The percentage of the work force in Qatar was 54.5%, and the actively economic inhabitants reached 50% within five years. In 1981 the workforce was 121,673 (Al-Hussaini, 1989, p. 33).

Table 2.10: The Qatar Population According to Gender and Relation with the Working Force (15 and more years)

Relation with the working force	Gender		Total
	Males	Females	
Actively economic people	181,602	19,458	201,258
Non-actively economic people	13,483	51,710	65,193
Unidentified	146	26	175
General total	195,234	71,392	266,626

Source: Al-Hussaini, S., (1989) Features of Qatari Professional Construction, p.33.

From Table 2.11 we can conclude the following:

In 1986, most of the foreign manpower (48%), from both sexes, worked in the public and social service sectors (96466 people). The building and construction sectors held 40523 people (25%), the commerce, restaurants and hotels sector 21964 people (11%), the manufacturing industries 18914 people (7%), the transport and storage sector 7357 people (4%), the agriculture and fishing sector 6283 people (3.5%), the electricity and water sector 5266 people (3%), the mining sector 4807 people (2.5%), the financing and insurance sector 3157 people (1.5%), and the unidentified activities 501 people (0.5%). From the table we notice that the work force is concentrated in the community and social services sector (Annual Statistical Abstract, 1992, p. 44).

Table 2.11: The Actively Economic People in Qatar According to Gender and Economic Activities (15 and more years), 1986

Economic Activity	Gender		Total
	Male	Female	
Agriculture; fishing; etc.	6,279	4	6,283
Mining	4,632	175	4,807
Manufacturing industries	13,791	123	13,914
Electricity; gas and water	5,264	2	5,266
Construction and building	40,408	115	40,523
Trade; restaurants and hotels	21,647	317	21,964
Transport and storing	7,075	282	7,257
Financing; insurance and housing	2,850	307	3,157
Community and social services	78,322	18,144	96,466
Unidentified activities	488	13	501
Total	180,756	19,482	200,238

Source: Annual Statistical Abstract, July 1992, p.44.

Table 2.12: The Percentage of the National Employment by Occupational Group, 1990

Occupational Group	No	%
Professional and Technical	3,441	17.8
Administration and Managerial	5,220	27.0
Clerical and Related	5,568	27.0
Sales Workers	1,605	8.5
Agricultural and Related	2,387	2.0
Services Workers	2,726	14.1
Production and Relation	1,387	2.0
Total	19,334	100.0

Source: Estimated by Birks and Sinclair Ltd., GCC Market Report, 1990, Mountjoy Research Centre, Durham, p.111.

Table 2.12 shows the distribution of the Qatari workforce in different specialisations. The estimated size of the Qatari workforce (19,334) is for the year 1990. The number of employees in clerical and occupations related to clerical jobs was 5,568 people, ranking top with 27.0%. Professional and technical jobs (3,441) rank next, with 17.8%. The lowest sections were `Agricultural and Related', and `Production and Related' with 774 people, i.e. 4.0% (Birks and Sinclair, 1990, p. 44).

Table 2.13: Percentage of Non National Employment by Occupational Group, Arab and Others, 1990

Occupational Group	Arab		Other		Total	
	No.	%	No.	%	No.	%
Professional and Technical	6,418	45.8	7,675	15.0	14,093	21.5
Administration and Managerial	3,566	25.0	4,094	8.0	7,660	11.7
Clerical and Related	2,567	18.0	3,070	6.0	5,637	8.6
Sales Workers	285	2.0	3,070	6.0	3,355	5.1
Agricultural and Related	428	3.0	5,117	10.0	5,545	8.5
Services Workers	428	3.0	13,816	27.0	14,244	21.8
Production and Related	571	4.0	14,327	28.0	14,897	22.8
Total	14,263	100.0	51,169	100.0	65,432	100.0

Source: GCC Market Report, Birks and Sinclair Ltd., Mountjoy Research Centre, Durham, 1990, p.112.

Table 2.13 shows the size of the workforce for non-national, Arab and non-Arab for the year 1990. The Arab workforce was estimated at 14,263; non-Arabs at 51,169; and the total number of employees at 65,432. The table above shows that a high percentage (22.8%) work in 'Production and Related' occupations in the production sector (14,897 people). The services workers sector held 14,244 people (21.8%). We can also observe that the percentage of non-Arabs (27.0%) in the services sector is considerably higher than for the Arab workforce (3.0%). This distribution reflects the Arab labour force's attitude towards vocational and manual occupations. We can discover that more of the Arab workforce (45.8%) work in the Professional and Technical sector (14,093 people) than non-Arabs (15.0%). This is also similar in the Administration and Managerial sectors with Arabs (25.0%) and non-Arabs (8.0%) (ibid, p. 121).

The data, statistics and the analyses of the work force indicate that the majority of the Qataris work in the government and public sectors. This is because:

1. The working hours do not exceed 4-5 hours, while in other sectors the working hours extend to 8 hours a day.
2. Promotion is guaranteed since there is no need for certificates or training courses.
3. The Qatari employee in the government sector is protected since his contract is never terminated.
4. Senior posts are governed by social and personal relations.
5. Senior staff receive extra incentives such as a plot of land, a loan from the bank to build a house, a loan for furniture, a loan for a car, a good pension, etc.

In spite of the increase of the role of women in the economic activities, it is still minimal. This situation has led to more dependence on foreign labour, and this is expected to continue in the future. Reasons for the modest participation of women can be grouped in the Islamic instructions and values and its social traditions. Any future plan should take into account this cultural background.

Foreign labour has its significant contribution in operating industrial sites and other productive sectors. The disadvantages of this work force include:

1. The transfer of currency to the foreign countries from which those labourers have come, especially those who do not accompany their families.
2. The citizens have no direct contacts with those foreign labourers, and thus they do not learn from foreign experience.
3. Not all the foreign labourers are skilled or specialised.

This suggests that there must be a balance in the distribution of manpower in Qatars and that the educational system should be amended with a special case made for technical and vocational education. The development of the human resources necessitates the promotion of educational institutions and curricula. The national manpower should take the responsibility of building and maintaining the country

without full dependence on foreign labour. But the question still remains: are the educational programs suitable to the development requirements? Have the educational institutions played the role of promoting and developing human resources? The Qatari government should give more attention to the education and training of youngsters whether they are enrolled in public or private schools and institutions.

Summary

- The country needs more science graduates than humanities.
- Higher numbers of boys dropout of school than girls.
- There are small numbers of pupils in the rural area schools in Qatar.
- The School of Industrial Crafts, School of Business studies and the Institute of Religious Education also suffer from a lack of students, as is the case of the science stream.
- Teachers do not keep themselves up-to-date with information and knowledge and do not enhance their abilities.
- There is a lack of a sufficient number of indigenous teachers to handle teaching in general and VTE in particular.
- There is a need for qualified labour force to work in the various fields of industry and construction.
- The government of Qatar introduced foreign labour from outside in order to operate modern technology and to fill the shortage in the national labour force.
- The abundance of wealth created new attitudes towards manual work.
- The prevailing educational system has failed to provide enough skilled labour and the issue of foreign labour has continued to be a challenge.
- The government is working on human development to replace foreign labour.
- The role of women in development is limited to household activities.

- Jobs that are available for women outside the home are centered on schools and hospitals.
- Qatari nationals are appointed to posts in the government, especially university graduates.
- Dependence will continue on Arab and non-Arab manpower for years.
- More Qatari nationals work in the public rather than the private sector.

Chapter Three

A Review of the Literature

There is, in Qatar, a lack of resource and research material in vocational and technical education. The following literature review therefore examines a number of studies related to vocational and technical education (VTE) in selected industrial countries and in other developing Arab and non-Arab countries. As the latter two groups share many similar problems and perspectives this will be representative of many nations, giving a very full picture of VTE. This will help Qatar to learn from their experience and will draw out issues for empirical investigation in the State of Qatar. The literature can be classified into three categories:

a- vocational education in industrial countries, with particular reference to the U.K., Germany, Japan and the U.S.A.;

b- vocational education in developing Arab countries, with particular reference to Saudi Arabia, Kuwait and Egypt;

c- vocational education in other developing countries, with particular reference to Brazil.

The researcher will extract issues from each country and then compare the issues to identify similarities and differences.

3.1. Vocational Education in Industrial Countries with Special Reference to the U.K., Germany, Japan and the U.S.A.;

Introduction

Over the past century, vocational education has developed in different countries along apparently very different lines. In the U.K. and in Germany the tradition of apprenticeship, inherited from the craft days, has been adapted to the needs of industry. Until recently, the links between general and vocational education were tenuous. In European countries preparation for working life begins after the end of compulsory secondary education. It is worth noting some contrasting features of education and training between the U.K. and Germany. The two countries have populations of similar size, occupy a similar land area, benefit from similar natural resources, and for all their differences of opinion, have enjoyed similar cultural development. However, there are four relevant prima facie contrasts worthy of emphasis. Each of the following refers to the German system, and is absent from the U.K. system:

> "1. the system of obligatory day-release from work till age 18 to attend vocational classes;
>
> "2. prevocational instruction at school during compulsory schooling ages;
>
> "3. schooling attainments in mathematics - especially high in Germany for those in the lower half of the [academic] ability range;
>
> "4. the attainment of intermediate vocational qualifications of nationally recognised standards by the majority of the workforce" (Scarborough, 1986, p. 9).

In Japan, which is a highly industrialised society, a majority of people want to work in an industrial occupation. Consequently, government allocates considerable sums of money to technical schooling (Prais, 1988, p. 257). The U.S.A. boasts a long history of vocational education. There has been a shift of programme emphasis from narrow vocational specialised training to broader-based preparation for work and to higher-order skills (Williams, 1989, p. 37).

3.1.1 The U.K.

A major policy concern of governments since the time of the Second World War has been to collaborate with industry in the growth of technical and scientific education both in senior administration posts and in higher technical posts (Central Office of Information Reference Pamphlet, 1972, p. 149). Cantor (1989) found that craft and technical training is provided by the Colleges of Further Education. These colleges (also termed Technical Colleges) offered courses up to and including General Certificate of Education (GCE) Advanced (A), GNVQS, HND and OND levels. These qualifications practice, the key to entry into higher education. Educational institutions offering higher education (universities and higher education colleges) concentrate on courses beyond A level. Cantor believes the education and training programmes in the U.K. to be inadequate, resulting directly in the production of poor quality personnel and manpower at all levels, particularly those trained in craft and technical skills. A survey carried out by the Engineering Industry Training Board (quoted by Cantor) revealed that British industry suffers both from an underskilled workforce and from serious skill shortages: one in five British engineers and technicians has no qualification (Cantor, 1989, p. 121). Cantor (1972) reported that, until 1964, training programmes for the craft worker in industry and commerce were the responsibility of employers and of trades unions, through casual collective agreement between the two. Government had no control over this scheme except through the colleges of further education. Over the past twenty years government and employers have shared responsibility for industrial training. Integration of such training is believed necessary. In 1962 the Minister of Labour published a White Paper on industrial training arrangements. This represented a welcome and fundamental reversal of government policy in the sense that vocational education is education designed to develop skills, abilities, understanding, attitudes, work habits and knowledge and information needed by workers to make progress in employment on a useful production basis. The proposals were passed by the Industrial Training Act of 1964, applying to Scotland, England and Wales. The main aims of the Act were as follows:

"a) to guarantee an adequate training programme for both men and women at all levels;

b) such industrial training must be of high quality and efficient;

c) the cost of the training programme must be shared between companies" (p. 145).

To meet these aims the Minister of Labour achieved power through the Act to set up Industrial Training Boards, the responsibility of which was to supply enough good quality training to meet the needs of employers for employees at all levels and in all positions in the industries for which the Boards were established. The Panels made recommendations for courses and industrial training programmes. Employers, aware of their needs, their weakness in relation to manpower, and their wish to attract training grants, complied with the course recommendations. In Cantor's view, however, the Act was flawed. Instead of making further education available for all young people according to their ability and capability, the Act institutionalised a position whereby educational provision became dependent on the needs and wishes of industry (Cantor, 1972, p. 147).

As Cantor, 1989 argued that over the past ten years, the British economy has changed considerably from being one of the most successful economies to one of the least productive. In the government's view, the root cause of social and economic problems besetting the U.K. has been the inadequacy of vocational education and training: a poorly trained workforce leading to industrial decline (Cantor, 1989, pp. 149,150). During 1971 in the hands of Local Education Authorities, substantial improvements had been made in the level of provision of training courses for operatives, craftsmen, technicians and the like (Central Office of Information Reference Pamphlet, 1972, p. 4). Through employment, young people can study on part-time courses at technical colleges and colleges of further education to obtain vocational qualifications. Technical colleges offer a wide range of courses in commerce, arts, technical and scientific subjects. However, it was recognised that there was a gap in provision between colleges catering for craftsmen/operatives for local industry and institutions offering a highly advanced level of academic/vocational preparation. Accordingly, the DES,

together with the Scottish Education Department and the Ministry of Education for Northern Ireland, addressed this issue, retraining general responsibility for colleges with the Local Education Authority, but shifting responsibility for the provision of post-graduate work and research to Colleges of Advanced Technology (CATs) (Central Office of Information Reference Pamphlet, 1972, p. 1).

At the other end of the vocational training spectrum is Youth Training (YT), formerly known as the Youth Training Scheme (YTS). The Youth Training scheme was introduced in an attempt to 'make a virtue out of necessity' (Ainley, 1990, p. 30). The intention behind its launch in 1983 was to use the national tragedy of mass youth unemployment as an opportunity to establish for the first time a permanent programme of integrated education and training for all school leavers, employed and unemployed alike (Ainley, 1990, p. 33). Replacing the Youth Opportunities Programme (YOP), it offers young people semi-generalised vocational training, with the opportunity of a certificate of qualification at completion. The aim of this system is to prepare young people for the labour market by giving them a strong and comprehensive skill knowledge. The scheme, a two year programme for 16 year old school leavers, but only one year for 17 year old school and college leavers, is primarily employer-based. It involves a complex partnership between employers (placement providers), skill trainers (training managers), provision assessment (training agents) and government/government funding (the Training Agency). The two year training programme must include a minimum of 20 weeks off-the-job training (Franklin, 1987, p. 31).

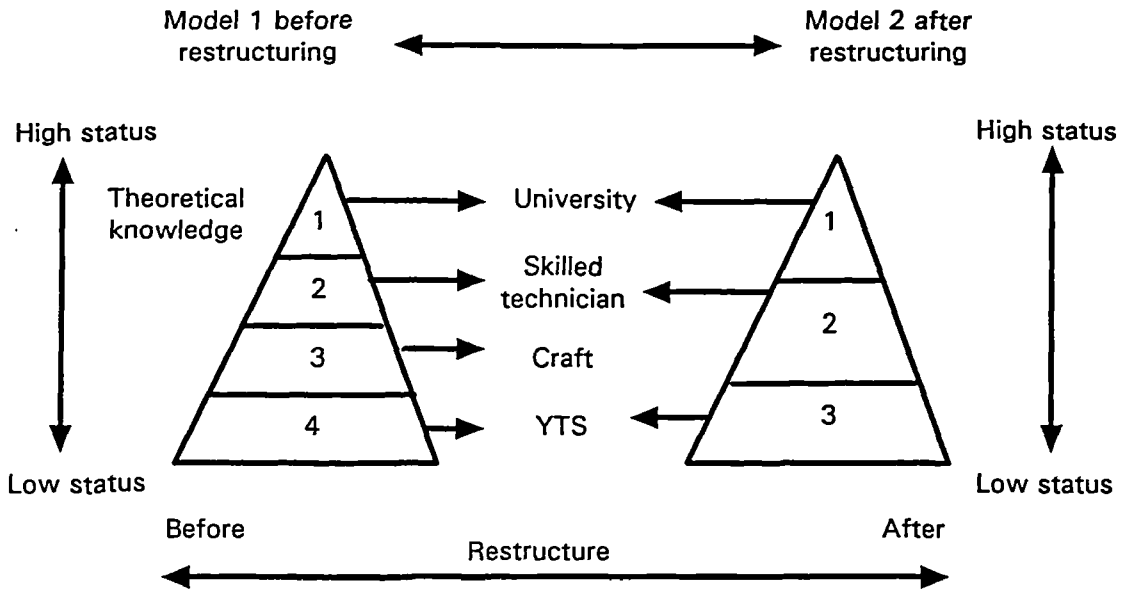
This scheme covers both unemployed and employed young people. The qualifications and high standards are essential to secure a competent and adaptable workforce. Young people on YTS are paid a basic training allowance or a wage if they are employed. All organisations running YTS programmes have to obtain Approved Training Organisation status, and on receipt of such they can become a managing agent

(Franklin, ibid, p. 32). Cantor (1989) pointed out that there are three objectives behind YTS:

> "1. to reform and develop the outmoded system of apprenticeship;
>
> 2. to extend adult retraining and skill updating;
>
> 3. to move to a position where all young people under the age of 18 not continuing in full-time education should have the opportunity of entering a period of planned work experience and related training and education" (p. 125).

The youth training scheme is a major facet of the further education system. To be fully understood, as explained by Callan (1991) the differences between and implications for post-16 education and training need to be analysed. Callan shows a model quoted from Poller (1986) to identify the further education area (Figure 3.1):

Figure (3.1)



Source: Callan, P., Youth Training in Great Britain, 1991, p.48

If we look at figure (3.1), Model (1) shows that YTS is the lowest status at the bottom of the pyramid, with the lowest level of theoretical knowledge, with Craft in cell (3), Skilled technician in cell (2) and university graduates with the highest level in theoretical knowledge and status in cell (1). After restructuring in Model (2), it could

be seen that YTS with Crafts people were in cell (3), which is the lower status and theoretical knowledge level, skilled technicians in cell (2), which is the mid-point, and finally university graduates, with the highest status and level of theoretical knowledge, in cell (1) at the top of the pyramid.

Both models above clarify the structure of manpower before and after redesign, looking at the situation after craft-type skills having been disbanded. The vast majority of the work force has been engaged on low status work, and only a small percentage has moved to the skilled technician category. The majority of the craft group is absorbed into society. One can also see from the above model the association between the status of knowledge and the reward structure. The high status knowledge carries high rewards, for example those people with high status knowledge usually have more chance to occupy the most important jobs in society than those with low status knowledge. The opposite is also true (Callan, 1991, pp. 48,49). One of the most critical problems facing YTS, for which planners and policy makers must find a solution, is its low status in the eyes of many people, who see it as a scheme especially designed for the less able and poorly motivated, which is, at least in part, the result of many youngsters leaving YTS programmes before the end of the course (Cantor, 1989, p. 129). It is worth focussing here on what gives high statuses. Young (1971) argued that high status knowledge was academic, non-vocational, theoretical, literary, whilst low status knowledge was practical, non-academic, vocational and related to every day life. The National Council for Vocational Qualifications (NCVQ) made several recommendations focused on resolving the issue of low status and raising the level of awareness of the importance of training for industry and business and the success of commerce:

1. qualifications obtained through YTS should be recognised;
2. increase the amount of integration between on-the-job and off-the-job elements of the programme;
3. for those students who would like to acquire further education for access to higher education, open access centres have been established, usually based in

existing college of further education centres (Cantor, 1989). This might be a very important factor because it permits students to obtain higher education and might solve the problem of low status of this kind of education (Stoney and Lines, 1987).

The main challenges which face Further Education when they attempt to implement YTS are that:

1. Trainees usually come from different backgrounds and also have different behavioural and motivation problems and the role of the authority is to cope with them.
2. The various scheme components should be integrated into cohesive packages suited to individual needs, liaising with sponsors and managing agents.
3. New trainee-centred learning review and assessment methods need to be introduced (Stoney and Lines, 1987, p. 128).

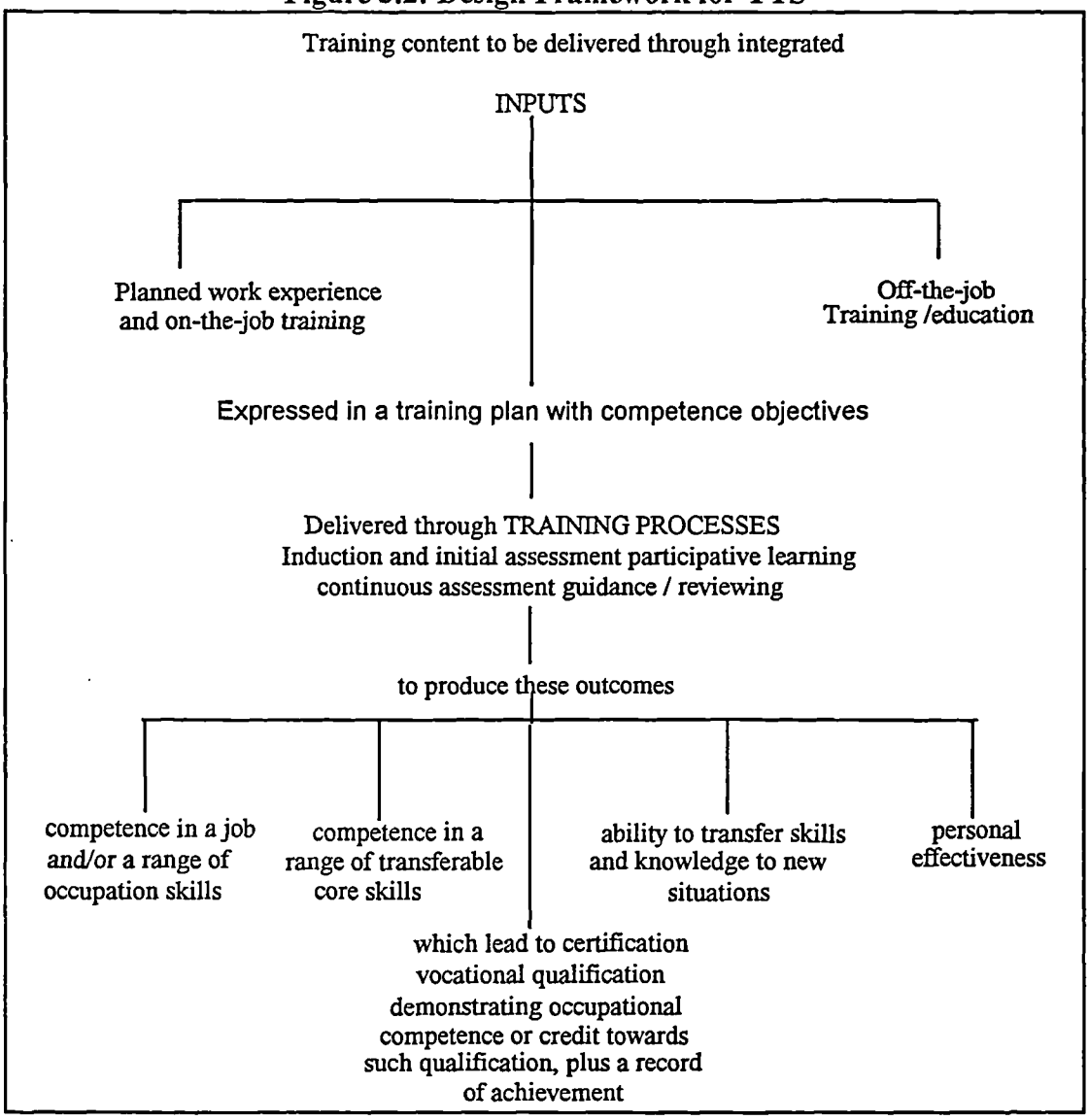
However, as Callan (1991) argued,

> "YTS is worthy of study because it represents a new curriculum for post-compulsory education for which academic qualifications are not required and for which a training allowance is paid" (pp. 15,16).

Figure 3.2 outlines the main principles which underlie the design of all YTS programmes. It stresses four "outcome competencies/abilities" which the trainee needs to acquire, and which when taken together make up an occupational competence.

Individual training programmes must also provide guidance, support and continuous assessment, and review and record individual trainees' progress systematically. Every trainee leaving a scheme receives an MSC recognised certificate. This certificate includes information about the training completed, a statement of competencies in the four outcomes and a summary of competence objectives achieved, including any qualifications obtained (Callan, ibid, p.1).

Figure 3.2: Design Framework for YTS



Source: Franklin & Blacklock (1987), p. 31.

Seale (1987) considers YTS to be a fascinating example of central government cutting through the usual channels of control over education in order to promote "the new vocationalism". However, considerable disquiet has been expressed by some observers on a wide variety of issues relating to the scheme. For instance, when in March 1985, during a period of persistent high unemployment, the Chancellor of the Exchequer (the government minister responsible for finance) announced the extension of the scheme to include two year training, he announced it as a means to combat unemployment by improving the education and training of young people. Some observers acknowledged

that unemployment would surely fall, simply by the removal from the unemployment register for a year of up to half a million young people (Seale, 1987). As Callan (1991) pointed out, one reason for setting up the YTS was the political and managerial problem which was facing the government. "YTS was introduced by the Thatcher government and ... a conservative government has controlled the scheme from its introduction to the present day... the operation of the scheme has been driven by a consistent ideology... the YTS was meant as a measure to reduce the wages and expectation of youth" (p. 24).

About a quarter of the age group (16-19) enter the Youth Training Scheme which provides some form of vocational training of varying quality and which enable some youngsters to obtain recognised qualifications (Cantor, 1991, pp. 174-179).

Another of the technical programmes which used in England and Wales was established by the Technician Education Council (TEC) in 1973. If we look through TEC policy there is a statement which makes it clear that it is expected that each college will adopt a flexible policy of TEC programmes so that every student can be admitted, regardless of age and levels of achievement. The most important requirement is that students can complete the programme well. Links and co-ordination with industry are important roles within the TEC structure. The basic aim of the TEC is to provide a scheme of technical education which is aware of both industrial requirements and students' needs and yet can be operated economically and efficiently (Moor and Deam with Andrews, 1983, p. 9).

The structure of TEC programme and awards

> "The Technician Education Council confers four main types of award: the Certificate, Diploma, Higher Certificate and Higher Diploma. The awards cover three sectors: A,B and C, which are subdivided into various specific areas of programme content each designated by a number. Sector A includes programmes in for example, Electrical Engineering (A3) and Motor Vehicle Engineering (A8) as well as Mechanical and Production Engineering (A5). Sector B encompasses programmes such as civil Engineering (B4) and Estate Management (B5), in addition to Building studies (B2), while Sector C covers Science programmes. A further aspect of TEC provision comprises courses in Art and Design (DATEC). Under the TEC system students may follow a unit-based programme, a grouped course scheme or individual units. Units are self contained components which usually entail 60 hours of study. The number of units within a programme varies according to the type of TEC award: Typically a certificate programme contains 15 units a Diploma 25, a Higher Certificate 10, and a Higher Diploma a minimum of 20 units. The responsibility of preparing courses of technical education lies with the colleges which are required to submit their proposals to the council for validation" (Moor,C and Deam, A with Andrews, S, 1983, p. 10).

A further technical programme is called the Certificate in Pre-Vocational Education (CPVE) which was established in 1984. The CPVE framework consists of an integrated approach to the delivery of the curriculum, both in linking the core with vocational areas and integrating the 10 compulsory core areas of the National Curriculum. In terms of delivery, the teacher's control of the curriculum is challenged through the concept of negotiation and the call for activity-based experiential learning. It also introduced a formative profiling system based on core competence statements through which students could negotiate their level of achievement. CPVE was initially planned as a one-year course available for 16-17 year olds of all abilities (Tomes, 1988, p. 217), but it is normally taken by low-achieving students immediately after they have completed their compulsory secondary schooling. The course consists of three major sections: core, vocational studies and additional studies, with the core and vocational studies consisting of at least 75 per cent of the time (an Ghail, 1988, p. 111):

> "CPVE has the potential to provide a balanced curriculum of general and vocational development for a wide range of students, irrespective of ability, gender and background" (Mansell, 1985, p. ix).

Keep and Mayhew (1991) argued that the failings of British vocational education and training were usually linked with the rapid demand for a skilled labour force and, because of the increasing competition in world markets and burgeoning new technologies, improvement in technical education was urgently required. They suggested that links between economic performance and the operation of the education system should be adopted for continuing education and training to qualified adult workers because the skill shortage provided a clear reminder that something was wrong; better training may not be a sufficient condition for economic success, but it is certainly a necessary one (Keep and Mayhew, 1991, p. 198).

Finegold and Soskice (1991), writing about the nature of the relationship between vocational education and the economy, argued that the failure of education to train a labour force caused the nation's poor economic performance and the absence of a well-educated and trained workforce made it difficult for industry to respond to new economic conditions. Finegold and Soskice believe that policies for the British system of education and training for the future should be made to cover both those in the sixteen-to-twenty age group and the adult labour force and to use the Japanese and Germans as examples as they achieved about 90 per cent of young people in full-time highly-structured education and training until nineteen or twenty years of age (Finegold and Soskice, 1991, p. 237).

Evans and Heinz (1993) conducted a study of transition of youth and labour market entry in England and Germany and argued that:

> "As economic achievement has become the main determinant of integration into adult society educational and occupational institutions have gained a dominant position among the social organisations which shape the process of transition" (p. 150).

The study revealed how cultural expectation about the paths in which youth should be prepared for adult and working life through an association of education, training and work are reflected in concepts of youth as a period of expectancy socialisation and in the time frames over which this socialisation occurs. Evans and Heinz argued that young people have succeeded in developing longer-term occupational goals which not

only depend on their past socialisation by the family and school but to a large degree on the way their identity formation was linked to challenge and rewarding experience in the moves towards employment itself. Evans and Heinz concluded that in England arrangements for young people's transition are weakly institutionalised and young people were entering the labour market at least two years ahead of their German equals (Evans and Heinz, 1993, p. 151).

Coffield (1992), writing about the Training and Enterprise Councils (TECs), argued that TECs are still seen as a short-term investment and there are struggles between the TECs and the Government over levels of funding and over the failure of some TECs, mainly in the South of England, to meet the guarantee of a training place to all school-leavers. The government, for its part, has been concerned to make the TECs publicly accountable, both nationally and locally; the TECs on their side have argued for greater freedom to respond to government priorities in ways that best suit local conditions. The government however so far has failed to develop a regional strategy for TECs because government developing policy, finance and implementation to locally accountable bodies in the regions are almost nil, also economic development is not firmly set within a national and EC policy framework. The Secretary of State for Employment in November 1991 issued guidance to the TECs on developing the national framework but only 'at national sectoral and local level'. Coffield (1992) made some suggestions to improve TECs' programmes:

> "1. The TECs should offer to be more accountable both nationally and locally in return for great freedom from cumbersome administration procedures and great continuity and flexibility over funding".
>
> "2. The TECs' regional role needs to be developed but regionalism is not a panacea against, for example, the international mobility of capital".
>
> "3. In terms of provision for 16 to 19 years olds there is not one overarching policy but two competing sets of ideas; the determination to keep the 'gold standard' of A level on the one hand, and the aim of ending the artificial divide between academic and vocational qualifications on the other. Parity of status would be a more likely outcome if 16 to 19 year olds in education and training had equality of financial provision".
>
> "4. In addition to adequate resources, economic regeneration calls for the involvement and creativity of all sections of the community. The TECs alone will not create a new

> culture that values education and training. Those TECs which genuinely wish to work on an equal footing with local partners may be well advised to bring them on to their boards in sufficient numbers to avoid the charge of tokenism" (Coffield, 1992, pp. 14,16).

Coffield concluded that the TECs can perhaps best be seen as functioning as a battlefield between two sets of ideology. Also he argued that:

> " The government is ideologically averse to the introduction of legislation on training and the notion of social partners and regional development. On the other hand it is determined to give the policy of voluntarism every chance of ensuing to increase the role of the free market and employers in education, training and employment and to keep on to centralise power while it talks of local control" (Coffield, 1992, pp. 14,16,27,28).

Coffield (1993) argues that TECs came after the enterprise movement had grown, they were established to train young unemployed and employed people. Two thirds of each TEC's board must consist of the senior managers of national or major companies at local level. TECs can be described as a national network of independent companies, led by chief executives from private industry in order to deliver training and enterprise locally. It is part of the official strategy for the Boards of TECs to be directed by the chief executives of large companies with few, if any, directors of small businesses and only token representation from trade unions, education, local government or willing organisations (Coffield, 1993, pp. 69,70). In conclusion there is no doubt that TEC programme structure and practice is costly. However the programme has provided the country with a skilled labour force and has tried to solve the problem of unemployment, but the level of unemployment is very large which makes this programme a short-term solution and the financial support from government is insufficient, which slows down the success of the TECs.

National Vocational Qualifications (NVQ) is a movement which lays stress on learning programs rather than courses, the emphasis being on unit based, credit gathering structures and the broad aim of achieving a complete system of vocational education. The centrality of competence and prescriptive achievement criteria in the NVQ model however could be regarded as a narrow pedagogical approach. This is especially so when applied to the higher level of professional and academic study. To base learning outcomes on particular definitions of occupationally defined competences is eventually

regressive and removes the learner's power to determine his/her own learning needs. Andragogical theories tend to emphasise capability rather than competence for continuous independent learning in response to a fast-changing society. For the higher level of NVQ there has already been some effort to refine narrow definitions of occupational competences, such as the capacity for independent thought, autonomous decision-making and situational understanding (Nasta, 1993, p. 148). The National Vocational Qualification is a beneficial approach because the programme evaluates students within units or tasks which students can manage to perform and also students can identify their own capabilities.

The General National Vocational Qualification (GNVQ) is a qualification essentially for full-time students in school and colleges, which was first announced in the 1991 White Paper 'Education and Training for the 21st Century'. Its aim is to serve a recognised vocational alternative to GCE A Level, hence the colloquial description, 'Vocational A Level' which is increasingly being used to describe GNVQ. The importance of GNVQs is that the three major vocational awarding bodies (BTEC, City and Guilds and RSA) which between them account for 80 percent of vocational qualifications share definitions of the three levels. GNVQs share a number of characteristics with NVQ qualifications. Each GNVQ qualification is made up of a number of individual units specified in the form of the learning outcomes to be achieved. Credit can be gained for individual units whether or not the student completes the whole qualification. The credit accumulation framework allows students the chance of building up credits towards a GNVQ over time. The approach to the assessment of GNVQ qualification is also akin to NVQ: it is based upon the student producing evidence to demonstrate the achievement of the performance criteria. The GNVQ route draws upon both the academic and employment-based routes to provide a broad general education and arrangement for the world of work or higher education (Nasta, 1994, pp. 16,21). The GNVQ is an important programme because it combines the three major VTE programmes (BTEC, City and Guilds and RSA) in to one

approach and also links academic work and employment, which can help students to enter the world of work and also have the chance to join higher education.

In summary there are major issues which can be extracted from analysing literature about VTE and training systems in the U.K:

1. Craft and technical training is provided by the Colleges of Further Education which offer courses for (GCE) Advanced (A), GNVQs, HND and OND levels.
2. British industry suffers both from an under-skilled work force and from serious skill shortages.
3. Over the past twenty years government and employers have shared responsibility for industrial training.
4. (YTS) was introduced to solve the problem of high unemployment among youth and integration programme between education and training for all school leavers.
5. (YOP) offers young people semi-generalised vocational training with the opportunity of a certificate of qualification at completion.
6. One of the problems of YTS is that people believe that it is suitable for poor academic students and also for those who drop out from school.
7. (TEC) programmes accept students at any age and any level of achievement.
8. Links and co-ordination with industry is one of the most important aspects of TEC programs.
9. (CPVE) has introduced a formation profiling system based on core competence statements through which students can negotiate their level of achievement.
10. (CPVE) is normally taken by low-achieving students after completing their secondary school.
11. (NVQ) emphasises a learning programme rather than courses, and capability rather than competence.

12. (GNVQ) draws upon both the academic and employment-based routes to provide a broad general education and preparation for the world of work or higher education.

3.1.2 Germany

In Germany vocational education and training takes place after young people have finished their general education at school. The majority leave school between the ages of 15 and 16 years, and enter one of two forms of vocational training. In the German system of vocational training, termed 'the Dual System', most young people enrol as apprentices. The most important aspect of this system is the combination of on-the-job training in industry or business, and part-time compulsory attendance at vocational schools until the age of 18. Cantor (1991) argued that these vocational schools have been growing in popularity in recent years. Most school leavers in Germany enter the Dual System vocational training programme (p. 101). During the course of 1991, for example, over 540,000 new trainees were enrolled as apprentices; 40% were girls and no fewer than 669,000 training places were offered by the Federal Government (Deissinger, 1994, p. 9).

Cantor (1991) indicated that when it works well, and is utilised appropriately, the Dual System can produce positive results. This positive effect can extend beyond the education system into the organisation of employment within the occupational system. For the Dual System to function effectively, there are two requisites:

- that companies train in the vocational areas for which they require junior employees;
- that companies can offer both vocational qualifications and productive work within their trainee programme (p. 102).

Braun 1987 indicated that in Germany there are three central sub-systems for vocational training in general:

1 On-the-job training (OJT) company;

2 Part-time vocational school;

3 Full-time vocational school .

OJT means a company-based vocational training and is the most important method of achieving preliminary vocational qualifications for young people; part-time vocational school has the aim, with the Dual System, of supplying a company with specific practical training related to a job, using the correct and essential specific theoretical material (attendance at part-time vocational school is essential for the duration of vocational training); full-time vocational school involves young people who take up jobs as unskilled workers directly after leaving school; they must attend vocational training at a full-time school during the course. The full-time school has a function similar to that of the part-time school. During the course, which is of one or two years' duration, there is a need for basic skills in the particular occupational skill; these are taught but do not lead to the award of a recognised certificate. In the vocational school basic skills and knowledge are taught in preparation for a subsequent OJT programme (pp. 123,126). Until 1991 in Germany more than two thirds of all young people between the ages of 15 and 18 participated in the Dual System which overall provided for about 1,800,000 trainees (Cantor, 1991, p. 102). The OJT programmes is suitable for workers with poor academic background who have difficulty in specific skills for specific jobs.

Russell (1985) reported that in Germany most young people who left school at the minimum age embarked upon an apprenticeship in one of the 460 training schemes which recognise trades in Germany. At the end of the course, most of the young people have to sit a test for skilled status and they then have a chance of further qualification routes which lead to a Master Technician, or Administrator qualification (p. 69).

Aring (1993) outlines vocational and technical education in Germany (Dual System):

"1. The system is called dual because students learn in two interconnected settings, the workplace and the school, by means of an interrelated curriculum.

2. Students' education and training are provided in the context of a particular industrial sector.

3. Because students in the dual system have to meet very high standards of education and skills, educators and employers are willing to give them far more responsibility and at a much earlier age.

4. Disadvantaged students are expected to meet the same requirements as everyone else. However, they are provided with substantially more resources in the process.

5. Education and training are not test-oriented. Throughout their apprenticeship period, students are judged by how successfully they meet standards that are developed jointly by business, education, labour, and government. Students are seen as workers who are expected to acquire whatever competencies are necessary to do the job correctly.

6. The dual system of education requires that labour, business, education and government collaborate closely.

7. Students going through the dual system must meet stringent requirements set by industry/state examination boards. They must not only spend a certain amount of time in an apprenticeship but must demonstrate their knowledge and skills during a two or three day examination period" (p. 398).

It is very important to mention here that student apprentices are taught in school and in the workplace by teachers who are respected and highly qualified and trained (Aring, 1993, pp. 398,399), this argument sported by Young (1971) when he said that it is not people but the knowledge in the educational institution which make the education processes succeed or fail.

Pritchard (1992) indicates some problems associated with the Dual System:

1- The Dual System served men much more than it served women when the system was started but at the present time more women have a chance to acquire an apprenticeship.

2- Women remain less recruited and those who have the chance to work are paid less than males and are also limited in promotion.

3- Under the Dual System most youth study part-time for one or two days a week. Most of them are over the legal age of maturity and they are attached to different sectors. School no more engages their attention and vocational school staff find

it difficult to understand their pupils. These students are slow to develop a group ethos, a feeling of "belonging" and also there is a lack of commitment.

4- Many students have to come from far away, especially those who attend regional subject classes.

5- One weakness of the Dual System is that parents and pupils have no chance to exercise their rights to discuss the student's achievement or the training programs (pp. 137,138).

At 18 a young person can be employed at an approved establishment where he or she follows a special training programme which is tailor-made for a specific occupation; the young person will be under the supervision of a craft supervisor, or someone qualified, and each week will have to spend one day training at the vocational school. There the student's time is divided between vocational education and general education (Prais, 1985, p. 41). One of the most important aspects of the Dual System programmes is that it suits students from different backgrounds, capabilities and qualifications.

Bernem (1983) reported that in Germany a new subject was introduced called Studies of Work (Arbeitslehre) to give vocational guidance to young people during the last two years of their school attendance at the Hauptschule in order to prepare them for entry into a strange and possibly threatening adult world. Education, in Bernem's belief, should be sufficiently comprehensive so that the particular problems which appear in working life can be addressed. Bernem believed that Arbeitslehre should consist mainly of career orientation as vocational preparation to help students to cope with new situations in real work life:

> "1 schools should invite an individual with a great knowledge of vocational education to give the young people general and personal guidance in respect of choosing a Beruf (Beruf means a description of what every man and woman may choose as his/her career or lifetime job. Beruf means vocation and originally had religious connotations. It can cover all areas, for example a baker has a Beruf, as has a carpenter);
>
> 2 pupils should visit factories and stores at different locations in order to be familiar with work conditions in different departments; this should be in accordance with a plan which would be prepared by the counsellor or training supervisor;

3 when pupils visit firms, they should be prepared for different approaches and should be instructed in and familiar with:

a) where people work together on specialist tasks, there is a social aspect to this;

b) vocationally orientated aspects in order to fulfil a task professionally and accurately during a long process;

c) pupils should obtain a skill which will give them the qualification to fulfil the technical aspect of the task according to the standard of technical organisation of the firm;

d) there is also an economic aspect, that of fulfilling a task economically in order to make a profit and to earn a living" (p. 89).

Bernem concluded that at the end of the school period, individual counselling should take place which would include medical and psychological examinations. These may assist a young person in his decision either to stay at school for higher education and further qualifications, or to drop out and find a suitable occupation. On-the-job training is provided in Germany for part-time employees through vocational schools which are supported by the communities and some companies. In Germany, the vocational school is recognised by the Government. OJT is part-time: pupils can attend for one or two days a week for 8 to 12 hours. Pupils have freedom to choose the direction which they wish to seek, to enrol within commercial, technical, domestic or agricultural courses. After the full-time period, they can know whether they are suitable for a specific job and once they have completed the basic vocational year, the students will have a better understanding and competence to decide the career they wish to follow without being influenced by others (pp. 89,91). In conclusion one can argue that the Arbeitslehre programmes can solve many problem which face students in VTE for example:

1. career counselling will provide the student with the right direction to choose his specific specialisation and the student can choose his career by himself.
2. through the orientation programmes the students can become more familiar with the work situation.
3. students should practise different tasks or units to know in which area they can fit.

Schenkel (1988) declared that the professional training in Germany is always the dual training system in the form of on-the-job training and education classes; after the young person signs a contract with a company this company should provide a training programme for him. This is required in recognised training occupations, and the young person can spend two days a week in training at the public vocational school and four days in the firm practising what he has learnt at work during normal hours (p. 30).

Zonka (1993) argued that co-operation between industrial factories' workers and educational organisations contributes to the success of Germany's training scheme. Vocational training is one of the reasons for Germany's highly-qualified and respected work force. A legal framework regulates financing as well as curriculum and sets up nationwide legal guidelines for employers and employees. It also establishes national standards of qualification which are recognised all over Germany and often across Europe (p. 18).

The main points which can be drawn from analysing VTE in Germany are:

1. Students in Germany usually join VTE after finishing their general education.
2. The most important aspect of the Dual System programs is the link between on-the-job training in industry and part-time compulsory training at a VTE institution until age 18.
3. At the end of the Dual System courses most young people have to take a test and have the choice of higher education.
4. One of the weaknesses of Dual System is that parents and students have no chance to express their ideas about the achievement or training programme.
5. At age 18 a young person can be employed after following a special training programme which is tailor-made for a specific occupation.

6. (Arbeitslehre) is vocational guidance to young people to provide them with career orientation as vocational preparation to be more familiar with working life.

7. Counsellors in Arbeitslehre assist young people in their decision either to stay at school for higher education or drop out and find a suitable occupation.

8. The students have freedom to choose their direction of specialisation in Arbeitslehre.

9. In Germany students through the Dual System should sign a contract with a company and this company should provide a training programme for them.

10. One of the most important factors which helps German VTE programs is the co-operation between industry and education.

3.1.3 Japan

Cantor (1985) examined the Japanese approach to vocational education and training and found that there are three types of upper secondary school course within the state school system for vocational education: full time, part-time and by correspondence. The full-time course is for three years and examinations are taken at the end of the course. The part-time course has two types of evening course which are given to most students, together with day courses. Correspondence and part-time courses last for four years.

The curriculum in vocational courses is largely concerned with broad occupational areas such as industry, commerce, agriculture, home economics and welfare; it is not designed for a specific job. Upper secondary schools have another institution which provides vocational education within the state system, this is the technical college. Lower secondary school leavers join a 5-year training programme as technicians from the age of 15 and train in different areas such as mechanical and electrical engineering, or industrial chemistry. Cantor concluded that most Japanese students obtain

employment without preparation or occupational qualification; subsequently, they are trained by their employers (pp. 67,73).

Scarborough (1986) indicated that the major laboratories in Japan's technical schools focus on the newest technologies, and that the Japanese government spends a great deal of money on technical schooling which gives the vocational system a strong partnership or working relationship between the technical school and industry (p. 9).

Cantor (1987), discussing the Japanese situation, described the increasing use of the institution known as the special training school. This type of training programme is a major development in the provision of vocational education and training in Japan; it has provided for Japan's companies to rebuild, after the Second World War, into a highly successful economy. The role of this institution must be seen within the framework of Japan's general system of vocational and technical education which is strongly united with Japanese society. Cantor pointed out that most of the vocational education and training in Japan is given by industry itself, to which it is strongly committed. To acquire a high level of skill and competence, together with effective productivity, the large companies and corporations in Japan spend a great deal of money. However, in recent years, the characteristic of Japan's employment system has become problematical for all major companies and corporations because of the high costs of training programmes. One of the most important reasons for this weakness is that economic growth is slowing down, which means very few young people can be employed. The national licensing system makes it easier for employees to change their jobs. The Japanese government should centralise and control vocational training and the education system because it is urgently needed (pp. 35,39).

The Japanese education system places great emphasis on a broad academic content. The Japanese take account of the following propositions for their educational progress:

1. the successful Japanese economy slowed the rates of youth unemployment and blunted concern about the employability of youth;

2. the large companies were more concerned about potential than about readily applicable knowledge and skills;
3. one of the most important aspects of the Japanese education system is that it functions as a type of talent-sorting system which has been widely perceived to be meritocratic;
4. the education system and examination processes encourage a set of attitudes and effective skills which are considered desirable by employers;
5. a strong academic bias and general education leads to the development of high standards in cognitive skills valued by employers (McCormick, 1988, pp. 37,38). The result of these important feature of Japanese education has been to help VTE programmes in Japan and their economy to succeed.

Linehen (1989) reported that in Japan the percentage of pupils studying in full-time education between the ages of 15 to 18 years was as high as 93%. The main objective for the Japanese vocational school is to prepare young people both morally and technically for the world of work. Second, there is a distinction between vocational education and vocational training in Japan. Vocational training is unofficially dominated by industry which gives more attention to on-the-job training. The Japanese upper secondary school system offers the student a correct and clearly tangible picture of the competitive education system based on three different systems, university, general school and vocational school. Linehen concluded that in this system of full-time and part-time education, students pay the fees, the majority of students join full-time (94%) and in the lower ability intake, about one-third overall are enrolled in vocational school. Those from the upper secondary schools enter university (pp. 29,30). It can be concluded that education in Japan is highly valued and also diversified and a continuous stream of students passes through the school and into the national labour market.

Blinco (1993) pointed out that Japanese success in their economy was achieved very rapidly. The reason for this was the Japanese educational system. There is a strong

belief in cultivating determination in young children in Japan, which feeds into economic success. Education in Japan is highly regarded and varied and controlled by a strong central government authority. The achievement of productivity in Japan depends on the interaction of technology and labour and also on the strong influence of the social structure and the feeling of Japan's workers of belonging to their institution (pp. 171,174).

In summary the Japanese VTE and training showed that:

1. The curriculum in vocational courses is largely concerned with broad occupational areas such as industry and commerce etc., not for specific jobs.

2. Most Japanese students obtain employment without preparation or occupational qualification.

3. Special training schools are a Japanese institution established after the Second World War to rebuild Japan and provide the country with a high skilled work force.

4. Most VTE and training in Japan is given by the industrial sector itself.

3.1.4 The U.S.A.

Abdu Whab (1985) indicated that Junior colleges were established a long time ago to prepare technicians, in addition to providing a transitional period for students, enabling them to join the four-year programme of universities or colleges afterwards, providing evening studies and continuous education for all citizens. The second kind of institution is the community college that came into existence after World War II, and was similar to adult colleges to a great extent. This college was oriented to meet the needs of the society more efficiently. The third kind was the Technical Institute which specialised in management and engineering in general. Moreover, there was a higher level for technicians as they were prepared in specialised colleges following programmes that took four years to complete. The education system follows the

credit-hours system and pre-requisites that assess the student's efforts in the high school or in the colleges and universities. This gives flexibility for students transferring between different educational systems, enabling them to credit hours taken in previous stages (p. 155). One of the problems facing students of VTE in developing Arab countries continuing their higher education in the United States was solved through establishing the Community college which helps students to prepare for university or to enter the labour market.

Williams and Hornsby (1989) reported that in the United States vocational education is changing for the express purpose of achieving the dual objectives of:

1- facilitating the maximum development of each student as an individual;

2- preparing the production of a labour force that is required by a prosperous and competitive society.

Efforts to achieve these objectives are raising serious questions in both the secondary and post-secondary vocational education systems. In response to these issues there appears to be a looking towards `mainstreaming' students in secondary vocational education while post-secondary vocational education is being charged with the responsibility of contributing expanded and amended programmes for highly specialised skill development. In the latter there is an emphasis on the new and emerging occupations in the service and high technology fields (p. 38). The stress on high technology and advanced academic occupations in recent years contradicts the fact that 78% of U.S. jobs today do not require a college diploma. On the other hand, of all the new jobs created over the 1984 - 2000 period more than half will require some education over high school and almost a third will be filled by college graduates. It is also important to note that 38% of all high school graduates immediately go into the job market upon completion of high school and that of the 62% of the cohort that do enter a post-secondary education programme, 65% do not successfully complete the programme. It is evident that the vast majority, about 78% of the students, enter the job market without completing a post-secondary education programme. The

problem here is that a very high percentage of students drop out of post-secondary school and also a high percentage of students enter the labour market without proper skill or specialisation. Responding to the labour market's need for vocational skills and knowledge development necessitated by the technology explosion of the past decade, secondary and post-secondary vocational educators have also provided adult vocational education programmes. Their programmes have been a response to specific business and industry job skills and training needs and they have been enthusiastically accepted by adult members of the U.S. labour force.

Williams and Hornsby concluded that vocational education is attempting to provide broad-based training which emphasises general rather than specific knowledge. Educators believe this to be essential preparation for effective work in today's labour market (pp. 38,39).

Cantor (1989) described the American picture as very complex and the product of a long history and of the work of many agencies, sometimes co-operating and at other times competing with one another. On the one hand there is the traditional vocational education offered mainly by the public schools and the community colleges funded very largely by the States themselves with some federal assistance. On the other hand there are various manpower training programmes which began in the 1960s in response to specific social and economic needs and which have developed since then into institutions largely separate from public school and community colleges. These programmes are currently funded by the federal government under the terms of the 1982 Job Training Partnership Act (JTPA) and the 1984 Carl D. Perkins Vocational Education Act and their form and content are largely determined by explicitly federal policies. Cantor concluded his study with some statistics on enrolment in public and private vocational institutions:

about 15.6 million students are in public vocational programmes and 17 million Americans are joining at one time in public and private vocational institutions and there are about 26,000 institutes across the country which fall mainly in three groups, high schools, vocational centres and post secondary institutions including community colleges and technical institutes. The programmes offered by the high schools are usually classified into two categories: general vocational programmes and occupational specific programmes (pp. 72,73).

Riely (1993) argued that one-half of the young people in United States would not join college and would not be given qualifications. He believes that one of the great failings is provision for non-college bound youth which is the reason for the US economy becoming less competitive. The government of the United States proposed spending $1.2 billion over the next four years on apprenticeship schemes linked to education reform. Officials from the Labour and Education Department are meeting almost daily to formulate plans for change in the attempt to ensure that all high school graduates who do not go to college be given an extra year of free training in skill. Students would be able to choose technical training (e.g. computer programming, design engineering, health services and micro-electronics) (p. 12). This system is very important for those who graduate from secondary school without any specialisation and need a long time to gain experience while this programme can provide them with adequate training at the same time as they receive wages.

Bailey (1993) indicated that all youth apprenticeship in United States proposals or strategies involve structured or organized learning on the job accompanied by some classroom training. Thus youth apprenticeship lies somewhere between an educational experience confined to the classroom and work experience in which participants are expected to learn just by being exposed to the workplace. Bailey suggested six principles in developing of youth apprenticeship;

" (1) Collaboration among secondary schools, postsecondary educational institutions, and employers;

(2) Provision of work-based training by employers as part of the programme;

(3) High quality integrated academic and occupational education;

(4) A focus on preparation for highly skilled occupations;

(5) Certification of occupational as well as academic skill levels of participation of young people;

(6) An attempt to reach back into the early secondary or middle school years and to link youth apprenticeship to a broad strategy of career exploration" (pp. 4,5).

Pullin (1994) argued that in the United States the relationship between schools and the workforce was very important for the national economy. Recognizing the importance of schools in preparing students for the world of work programmes are set up to provide students with basic skills proficiency, higher order thinking skills, interpersonal and teamwork skills and the personal characteristics or attitudes of self-esteem motivation and responsibility on the part of future workers. The competencies are built upon proficiency in the basic skills and the development of critical thinking skills and are intended to ensure that effective workers have interpersonal skills and can use resource information systems and technology productively (p. 35). This training system is one of the most important courses because there is no doubt that students who graduate successfully from this programme will have a very high level of skill.

Lewis (1994) indicated that the government of the United States should call for building on a broader system that already exists and that includes apprenticeships, academic and technical preparation programs; youth service cooperative education and youth enterprises should be developed together into a system with skills standards at its foundation to ensure that students have these skills. The federal government should also provide incentives for employers to participate in structured education/work programs and help teachers to integrate what they do with workplace needs and also encourage businesses to develop workplaces that use skills appropriate for high performance organizations (p. 509).

Limes (1994) argued that retraining of American workers for specific jobs helped American manufacturing to improve the quality of American production especially in the auto industry. If America wished to continue increased demand for American cars it would be important to be more concerned about training workers to meet production needs and also to be prepared to train them for the multitude of new jobs that will be

created in the near future. Business and education need to work together more closely to meet the increasing need for training (pp. 39,40). Collaboration between all concerned who benefit from VTE will help to achieve the national target of economic reward and VTE is the first priority to eliminate effort and cost wastage.

Kantor (1994) indicated that President Clinton intends to spend approximately $1.2 billion on a five year plan to provide 300,000 young adult apprenticeships for 50% of those who do not join college after high school and have difficulty in doing any professional job because they are not skilled workers. Clinton's proposal would combine paid work and on-the-job training with related classroom instruction in the last two years of high school and a third year of professional-technical education. At the end of the programme students would receive a certificate of occupational competence in addition to a high school diploma and would have the opportunity of going on to college or entering the work force in their selected field (p. 1).

There are a number of main points which can be drawn from the United States experience:

1. Community colleges were established to provide a transition period from students to join university.
2. In the United States VTE facilitates the maximum development of each student as an individual not as group.
3. 78% of students who enter the job market do not have proper qualification or skill.
4. VTE provides students with broad-based training rather than specific knowledge.
5. Links between education experience and work experience is involved to provide high quality integration between academic and vocational education.

3.1.5 Summary

Through analyzing vocational and technical education systems in a number of industrial developed countries there are major issues that Qatari planners and policy makers can learn from those countries for example:

- Economic development requires a strong educational system to provide young workers with skills, knowledge and attitudes needed for employment.
- National policies for providing vocational and technical education appear to be based on the assumption that there will be continued economic expansion and growth.
- National policies for economic development encourage a continued supply of educated and trained workers.
- Manpower planners and education planners forecast and survey the function of labour markets and the educational institutions and conduct follow-up studies on recent school and higher institutes leavers and graduates.
- Achieving effective educational planning and human resources development depends on the presence of conscientious dynamic and competent leadership to guide the process.
- Most of these industrial developed countries have experienced a rapid upgrading of skill and educational requirements for their employees in a drive to increase productivity.
- The developed countries provide an opportunity for young people to advance both academically and occupationally and obtain a recognized certificate.
- Youth apprenticeship should keep open the option for postsecondary education.
- Exploit work places and community settings as learning environment.
- Link work experience to academic learning and real opportunities for work place learning with training wages paid by employers.
- Apprenticeship systems in Germany can function on a mass scale, far from being a marginal program for young people who cannot succeed in regular schools. Its scale

encompasses sufficient diversity and flexibility to make it work in a technologically sophisticated work environment.

- Education and training at the job site in the dual system are not specific to one job or one company. They are intended to give the young person maximum job opportunities and mobility within the companies that make up the industry.
- There is no one single authority in all industrial countries that controls all VTE and training but the responsibility for providing vocational and technical education employment training is scattered under many organizations and state agencies.

3.2. Vocational Education in the Arab Developing World, with Particular Reference to Saudi Arabia, Kuwait and Egypt

Introduction

Over the past four decades Arab countries have devoted much attention to 'all-round development', a goal and a means for achieving progress and betterment of their societies, and a tool to face the challenges, both external and internal, in political and economic fields. Thus there arose an urgent and compelling need to evolve an Arab professional and technical infrastructure in various fields of specialisation. Vocational and technical education was therefore accorded the greatest attention. At a conference held in Khartoum from 29 July to 2 August 1978 (vide resolution No. 43) by the Arab Ministers of Education, it was noted that special provision must be made for the strategy for the development of education in the Arab world. Serious efforts at national and regional levels of vocational and technical education witnessed a major change and progress in some Arab countries, but many countries are still at the beginning stage. The two streams of education (Vocational education and Technical education) which they adopted were inadequate to provide skilled manpower needs for the labour market.

Hassawi (1988) argued that the structure of 1988 as shown in figures 3.3 of Arab manpower consists of a broad base of non-skilled labour which is illiterate; there is also a fairly large number of specialists in some fields and a surplus of such specialists in other areas. But the number of technicians and skilled workers remains limited and Arab countries in general, including those which supply different types of manpower, are suffering from a major deficit in these two categories of manpower. The data and statistics available on the number of students studying in the different stages of education in the Arab countries during the year 1984 and the figures projected for the year 1990 as well as the estimated number of those who will graduate from their

systems every year are shown in Figure 3.4 and indicate that there is a clear imbalance in the quantity and quality of such manpower (pp. 1,2,9,10).

A graphical representation of 1984-1988 manpower charted against skill level takes the approximate form of a pyramid (Figure 3.3 and Figure 3.4). The base of the manpower pyramid is a wide non-skilled labour force, because of the high number of uneducated people. The technicians and skilled labour force are the minority and most Arab countries have a shortage of these two. Interestingly, at the top of the pyramid, there is a sizeable number of professionals in certain specialisations, perhaps more than the society needs. This is shown also in Figure 3.4 (Hassawi, 1988, p. 20). One can conclude that the majority of the labour force in Arab countries are unskilled which will create problems in meeting the need for a skilled labour force for a long time.

Over the past two decades, the educational systems in the Arab world have witnessed a rapid expansion at all levels. One of the main targets of the enrolment policy is to follow a strategy of compulsory primary education. In accordance with this strategy enrolment in the primary schools (for children aged 6 - 11 years old) amounted to about 63% in 1980. Secondary and university levels have also witnessed a rapid increase, especially in the field of general education.

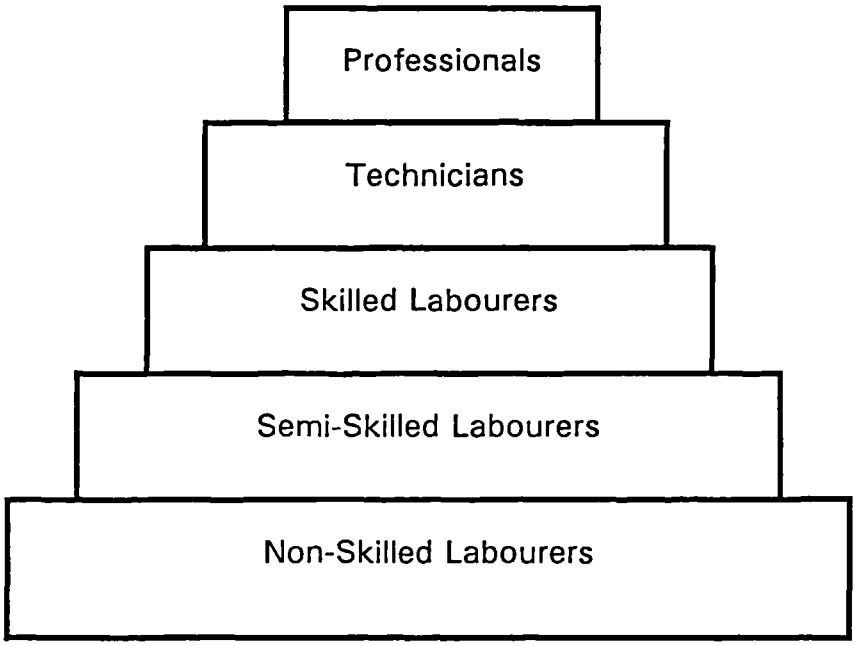
However, vocational and technical education did not expand enrolment to match the expansion in general education. As Tables 3.1 and 3.2 show, the population of the Arab world is estimated at 172 million, with enrolment of students in three levels of education as follows:

1. Primary education level = 21.6 million
2. Intermediary and secondary levels = 9.4 million
3. University level = 1.46 million

   Vocational education = 0.920 million

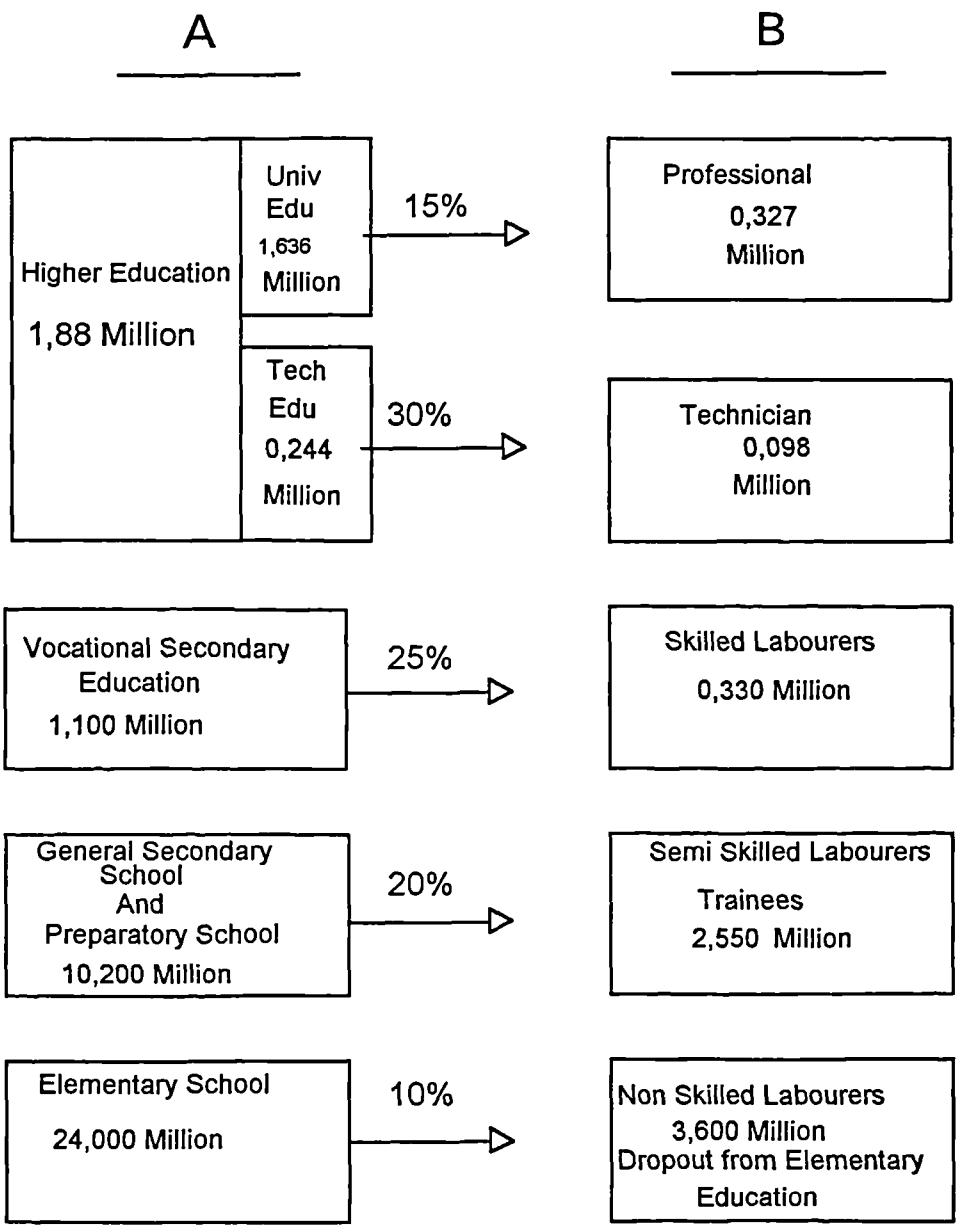
   Technical level = 0.195 million

Figure 3.3. The Manpower for 1984-1988 in Certain Arab Countries at Present



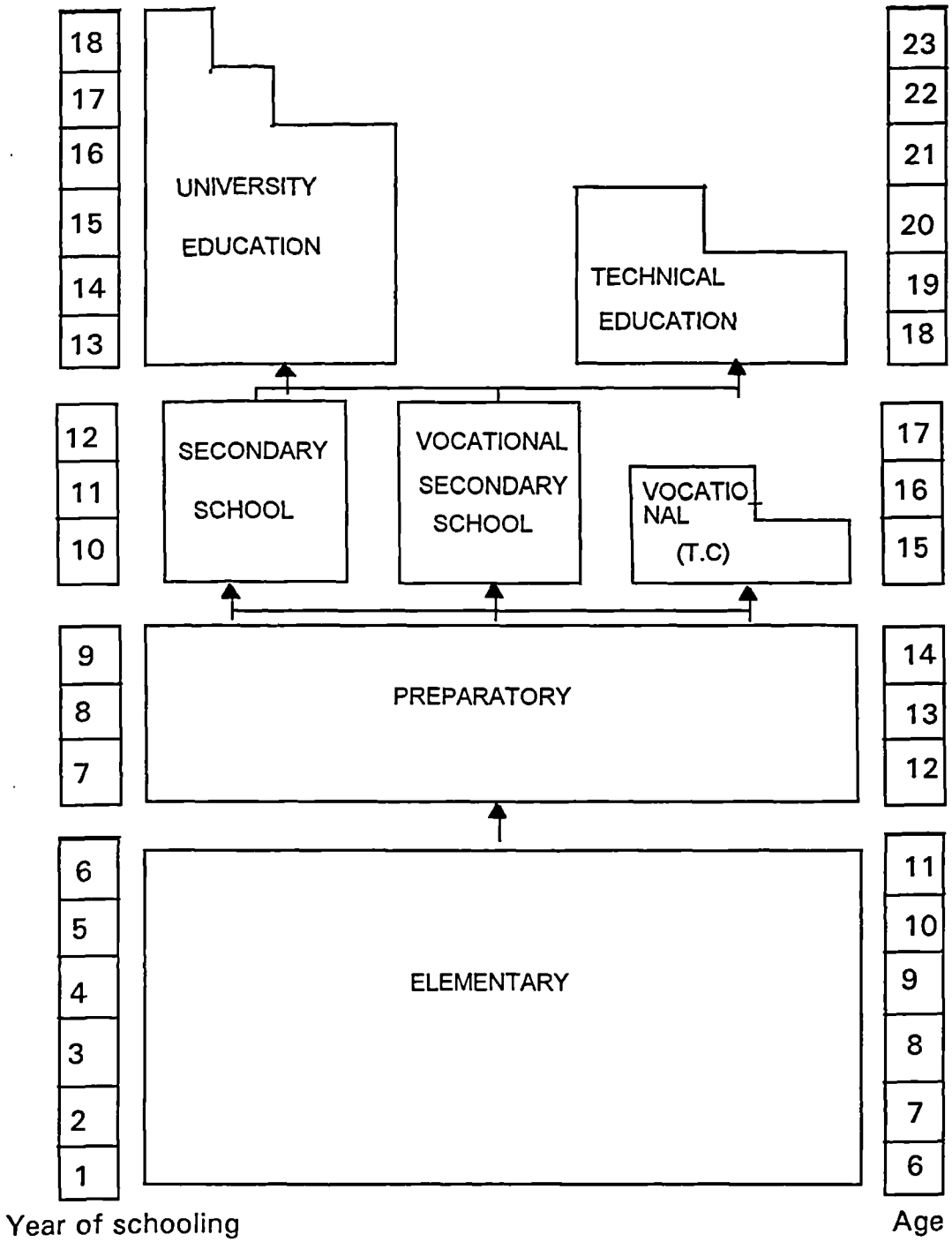
Source: Hassawi, G. and Abu Sheikh, M. (1988) Developing Technical Education in Arab World, Special Report submitted to Arabic Organisation for Education, Cultural and Science Conference No 9. (19 - 25 December 1988) p. 9.

Table 3.4. The Relationship between the Contribution of Education to the Labour Market and the Size of Education in the Arab Countries in 1984-1988.



Source: Hassawi and Abu Sheikh, 1988, p.10.

Figure 3.5 The Education Ladder in all Arab Regions



Source: Abdualwahab, H. op. cit.p.31.

A comparison of the amount of technical education and other education in the Arab world

Even with rapidly increasing numbers of students in vocational and technical education, the need for skilled manpower remains:

- The ratio of vocational education to secondary general education is 1:2.27.
- The ratio of technical education to higher education is 1:7.5.
- The percentage of all students in technical education to number of students in higher education in Arab countries is only 13.3%.
- The number of students in technical education for every 1000 of the population is 113 compared to the number of those in university education which is 734 for every 100,000 of the population (Abdulwahab, 1985, pp. 31,36). It could be argued that the number of students enrolled in the VTE institutions is still too far behind to cover the demand for a skilled labour force in all Arab countries. The above figures indicate that most students in the Arab world prefer to join general academic schools than vocational technical schools because of the low status accorded to vocational education.

Table 3.1. Area, population and number of students involved in school in all Arab countries.

No	Countries	Area ('000s-Km2)	Population ('000s)	Number of students registered ('000s) in all levels	Years
1	Jordan	97	3364	805	1984/85
2	U.A.E	84	762	146.1	1983/84
3	Bahrain	1	359	77.8	1984/85
4	Tunisia	164	6283	1453	1983/84
5	Algeria	2383	19590	4541	1984/85
6	Jibuti	22	350	23.7	1983/84
7	Saudi Arabia	2149	9319	1446	1982/83
8	Sudan	2506	18901	2208	1984/85
9	Syria	185	9314	2421	1983/84
10	Somalia	638	4895	417.9	1984/85
11	Iraq	438	13527	3916	1984/85
12	Oman	213	919	166	1984/85
13	Palestine	21	1965	187	1984/85
14	Qatar	11	260	531.1	1983/84
15	Kuwait	18	1464	351.6	1984/85
16	Lebanon	10	3161	719	1983/84
17	Libya	1760	3069	975.5	1984/85
18	Egypt	1002	43465	8159	1983/84
19	Moroco	670	20646	3360	1983/84
20	Mauritania	1030	1681	124.5	1984/85
21	N.Yemen	195	7078	640.5	1984/85
22	S.Yemen	333	2030	607	1983/84
	Total	13929	172429	87368	

Source: Hassawi, G and Abu Sheikh. 1988:9.

Table 3.2. Number of Students in Secondary School, Technical and General Education in the Arab World (N. per 100,000 of population)

No	Countries	Number of Students in Vocational Secondary School	Number of students registered in VTE	Number of students in VTE	% of students in VTE
1	Jordan	46	32174	956	57%
2	U.A.E	-	-	-	-
3	Bahrain	3	2800	780	85%
4	Tunisia	27	4732	75	14.3%
5	Algeria	28	11390	58	9.5%
6	Jibuti	-	-	-	-
7	Saudi Arabia	3	389	4	0.6%
8	Sudan	9	3177	17	9.6%
9	Syria	56	17573	189	12.3%
10	Somalia	1	255	5	8.8%
11	Iraq	41	44697	330	32.1%
12	Oman	-	-	-	-
13	Palestine	14	5706	290	38%
14	Qatar	2	310	119	10%
15	Kuwait	5	5952	407	38%
16	Lebanon	2	1238	38	1.7%
17	Libya	5	1771	55	6.5%
18	Egypt	24	47495	109	8.4%
19	Moroco	46	13557	66	8.7%
20	Mauritania	2	344	20	68.8%
21	N.Yemen	-	-	-	-
22	S.Yemen	7	1497	74	59.9%
	Total	321	194997	113	13.3%

Source: Abdulwahab, H. op.cit. p73.

UNESCO (1971) published a report of the Marrakesh Conference which studied education in the Arab region. The report was designed to provide a comprehensive and concise picture of education in the Arab region as viewed from the third regional conference of ministers of education and ministers responsible for economic planning

in Arab countries. The general theme of the conference included trends in general technical and vocational education in the Arab States. The conference concluded that most Arab countries are in need of material capital to accelerate their economic development; but they are also in need of human skills, both technical and administrative. According to the membership, a proper balance should be sought in the general development of education between general and vocational, and teaching and practical instruction, between the humanities and sciences, and between in-school and out-of-school activities (United Nations Education, Social and Cultural Organisation, 1971, pp. 20,21).

In 1977 a conference was held in the United Arab Emirates by ministers of education and ministers responsible for economic planning in the Arab States (UNESCO, 1977). They discussed general, technical and vocational education in the region and developed strategies with a view to providing alternatives to existing prospects for educational development. They also examined the present trends in education and problems raised by the renewal of educational systems in the light of recent social, economic, and cultural development. The democratisation of education was an over-riding issue, and with this in mind, a framework for regional and international co-operation was established (UNESCO, 1977).

The members of the conference concluded that education must:

- serve to train the qualified personnel needed for development at all levels;
- be closely related to the world of work;
- prepare students for that world by providing them with the necessary skills and aptitudes.

Prominence was given both to the teaching of science, regarding content and method, and to technical and vocational education. The ministers encouraged Arab youth to enrol in technical and vocational education as a means of meeting the urgent need for semi-skilled personnel and technicians. They also recommended that vocational and technical training programmes be planned to include periods of intensive practical work in vocational training centres and in industry. Training and employment should be considered closely together, as well as the development of necessary skills. The renewal of education must at the same time improve the quality of the training provided to achieve greater importance in the areas of science and technology.

A higher percentage of school children, according to the ministers, must be given knowledge and background information about technical and vocational education and training. Improving the quality of training and further training was another major concern of the government with regard to teachers of technical education. Progressively greater attention is being given to school and vocational counselling as is required by the closer links being established between education and employment in the industrial sector. Full employment was not linked with education alone but also with the development of socio-economic conditions and other factors. There should be both short-term and long-term development planning. Technical education structures were not properly exploited, concluded the ministers, and education did not benefit from the experience of industry. The remedy sought was an integration of academic and vocational education drawing upon educational and industrial institutions (United Nations Education, Social and Cultural Organisation, 1977, pp. 26,28).

Tazi (1980) reported on the general aspects of education in the Arab states, relating these aspects to information resulting from the Abu Dhabi conference (1979). He attempted to formulate strategies for the development of education and to devise a framework for regional and international co-operation. According to Tazi, the conference members considered it irresponsible for the Arab states not to strengthen

the links between educational planning and economic and social development planning. Policies that will ensure the establishment of appropriate overall education which integrates these factors in the context of democratisation and life-long education should be considered. Special attention should be paid to the application of the principle of education for all, to eradicate illiteracy and to eliminate inequalities in educational opportunities. Tazi (1980) pointed to the efforts of the conference members to improve education, with the aim of strengthening cultural identity and contributing to both modernisation and development.

The conference members felt a need to evaluate experiments in linking education to development, particularly those which link education with production skills and which introduce training in manual work into primary, intermediate and secondary education, so that manual work may enjoy the same status as abstract knowledge.

Recognising that development depends on the availability of trained manpower and on the rational use of natural resources, the conference members recommended to the Arab states that they provide vocational training opportunities for individuals seeking employment upon completion of their compulsory schooling (which is similar to the aims of the Training Agency in the U.K.). Calls on UNESCO to provide assistance to member states to enable them to train skilled manpower and acquire that technological means needed for the development of such systems were evidenced. Tazi (1980) stated that the conference members encouraged young people to enrol in technical and vocational education as a means of meeting the urgent need for semi-skilled personnel and technicians. The Arab states, concluded the author, should see to it that vocational and technical training programmes are planned to include periods of intensive practical work in vocational training centres and industry (pp. 7,8,15,17).

Salmi (1991) wrote about the vocational education experience in some Arab countries, arguing that in the Arab world in particular no significant attempts to develop vocational education on a large scale had taken place because of the small number of VTE graduates and also the large number of dropouts from these schools. It had been

noted as early as 1972 that on the whole and with possibly one or two exceptions, vocational and technical education is still little more than decoration on the fringes of the national education system (see also Kadri, 1986, p. 37). The relative position of vocational education in many Arab countries can be attributed to two main reasons. The first factor is historical. Colonial authorities often used vocational schools as second-class education institutions for the natives. As a result there was a strong popular rejection of this type of school after independence. The second factor was the perception that general education was an appropriate and legitimate way of training people for work with the government in countries where the public sector remained the main source of employment for many years after independence (p. 97).

Al-Awad (1992) suggested that in most Arab countries the association between education and occupation is not as strong as assumed, which caused a serious imbalance of different types of labour availability or labour requirements of professionals and technicians. Also the drop-out rate is very high, particularly in the oil producing countries. For these reasons the achievements of many development plans for reaching their targets is very poor and usually the targets which are set up by planners are very different from what has actually been achieved in many countries. It is therefore essential for manpower planners in directing education to meet the requirements of the manpower to consider the role of all levels and types of education and to be successful in linking the form and content of education with manpower requirements and human development (p. 10).

Al-Masry (1994) argued that more appropriate and targeted technical education and equal educational opportunities will be less helpful or useless without adequate educational and vocational guidance. The author believes that establishments for technical education should be set up only where there is a strong basis and a foreseeable demand for their graduates. Since the costs of constructing, equipping and operating a technical school are high, it needs a regional production and economic infra-structure to match. This will compensate for any deficiency in technical school

buildings or equipment and still guarantee the conditions necessary for training the students and operating the technical schools, irrespective of their financial or material difficulties. Advisory committees showing various kinds of economic activities at the local level should be set up to assist technical schools. These committees should maintain direct contact with the technical schools and be active in their organisation. They should help in planning studies to meet local manpower requirements, advise on how the schools may be reorganised so as to meet better the actual and foreseeable needs of users, and help to obtain employment for the graduates (pp. 19,26).

Shahateet (1994) pointed out that the dilemma facing Arab states is similar to that faced by many other regions. These countries cannot easily develop their economies without skilled manpower, but such manpower is often difficult to train in the context of an underdeveloped economy. School workshops, in certain situations, may serve as substitutes for industrial plants for the purpose of on-the-job training. Shahateet concluded that technical education is a crucial factor in the process of social regeneration and economic development. The power of technical education stems by and large from the power of the educational system of which it is an integral part. In consequence, claims Shahateet, provision for the improvement of education in the Arab world needs to be made a prerequisite for the development of technical education. Technical education should not start before the end of the preparatory or lower secondary school because the foundation of knowledge and information which the students receive in preparatory and elementary school will help them to benefit more from the various programmes of VTE. Also technical education in the Arab countries should be reorganised so that every student can continue his education until his potentialities have been fully developed. Access to higher levels of education should be made possible for any capable graduate of a technical school.

Shahateet further noted that education in the Arab world is considered important for social promotion, but as long as technical education at the secondary level begins very late, it will not attract the best students. Shahateet suggested that the planning for technical education in the Arab world should meet the following requirements:

> "1. It should be considered that the future needs for training youth be linked by the requirements of present social and economic conditions of the Arab countries. Very specific information and statistics which consider general trends in the demand for different classes of goods and services of different kinds of skills and knowledge, are desired.
>
> "2. It should consist of a study and appraisal of the existing systems of technical education in the Arab countries for maintaining and developing this between them.
>
> "3. It should be based on the principles of equality of opportunity and the wise distribution of technical schools according to the different needs of local communities.
>
> "4. It should be based on a well-defined chart of economic institutions and centres of production in the Arab countries so that technical schools should be as close as possible to these institutions and centres.
>
> "5. It should be made at all levels - local, provincial and national, with due consideration to co-ordination among these levels in order to achieve integration. A council or other consultative body concerned with planning at the national level should be provided.
>
> "6. It should be carried out by the ministries of education in close liaison with interested parties which are involved in training in industry, agriculture and commerce taking into consideration the economic situation and prospects" (pp. 43,49).

Through the above description one can realise that there are many problems which are facing the Arab world, for example:

- Young adults relocated to join VTE institutions.
- Absence of appropriate VTE institutions.
- A need for skilled people in technical and administration.
- Links between general education and vocational education do not exist.
- VTE institutions and employment should work together not separately.
- Most school children have some knowledge about VTE.
- Counselling in VTE school and Employment should exist to direct students to the right specialisation.

- VTE programmes should meet the socio-economic development needs.
- Short and long-term development planning is very important for national economic development.
- There is a need for advisory committees to study different kinds of economic activities at the local level to assist technical needs.
- VTE certificates should be recognised in order to help students to continue higher education.

3.2.1 Saudi Arabia

Alaki (1972) examined industrial-vocational education in Saudi Arabia. The purpose of his study was to identify the major problems of industrial-vocational education in Saudi Arabia and the consequent contributions that this made to the labour market of the country in terms of technicians and skilled workers. He examined the needs of education in the overall manpower programme as well as identifying new strategies and action programmes for the Saudi Arabian industrial vocational education system. The result of this study showed that the labour market in Saudi Arabia cannot be developed without dependence on foreign skilled workers. Moreover, the economy could not operate properly without foreigners. Certain limitations appeared in the country's manpower development programmes. According to Alaki education has increased in recent years, yet still lags behind allocations for education in some of the neighbouring Arab countries. The vocational training centres of the ministry of labour do provide the private sector with semi-skilled and skilled workers. However, Alaki pointed out that there is an urgent need for more agencies. The study revealed the problem areas of attitudes, quality of work, adequate facilities and lack of co-operation - problems similar to those experienced in the U.K.. Vocational education seems less desirable to Saudi youth because technical and vocational education is looked down on by the majority of parents, regardless of their own educational background. This disdain limits the size of enrolments in industrial vocational education, contends Alaki. The poor quality of teachers and administrators in the existing industrial-vocational schools was

shown to have a great impact on the quality of learning and on the expansion of this system of education. The existing buildings used for industrial-vocational schools were shown not to suit this type of education. Most of the graduates of the vocational schools joined the public sector, leaving the private sector to depend partially on their own on-the-job training (OJT) programmes and mostly on the hiring of foreign workers as technicians. In Alaki's opinion, this shortage of personnel results from an apparent lack of co-operation between leaders of industry and leaders of industrial-vocational education (pp. 12,35,309).

Al-Mulla (1980) examined the system for evaluating the administration and effectiveness of vocational education programmes in Saudi Arabia. He found that vocational secondary schools strongly affected the development of manpower needs and the national goal of eliminating dependence on foreign manpower. Al-Mulla further stated that a permanent on-going follow-up system should be instituted to determine the career patterns of graduates and drop-outs from the vocational education system. Because of the lack of work done in this area of evaluation of administration, Al-Mulla recommended that a special task force be set up to study and prepare a specific set of guidelines for evaluating administrators in Saudi Arabia vocational education institutions. The study provided a format which contributes to the overall improvement of vocational education in Saudi Arabia. Also, it specifically developed a system for evaluating the effectiveness of vocational education programmes and their administration (pp. 5,20).

Al-Ghfaily (1980) studied Saudi youth attitudes toward work and vocational education. The purpose of his study was to examine the effects of the Saudi youth's attitudes to the development process in Saudi Arabia. He found that Saudi youth did not welcome the concept of manual labour, private jobs, mobility of work, economic incentives, working with strangers, and general vocational work. Al-Ghfaily pointed out that people in Saudi Arabia have modern consumption attitudes but still maintain traditional production attitudes. Education and socio-economic status have a

significant effect on some work attitudes, but from a practical point of view, it is a weak relationship. Information exposure has a negative effect on Saudi youth's work motives and attitudes. More economic mobilisation of Saudi Arabia will not develop the people's attitudes and capacities to participate effectively in achieving the goal of national development. Al-Ghfaily suggests that in order to promote the image of vocational education among Saudi youth, extensive public relations programmes should be initiated to help academic students and their parents to understand the improvement vocational education could make on the prosperity of Saudi youth's future (pp. 15,130).

In 1980, Saad conducted a study to organise, develop and determine certain criteria for a well-developed programme of guidance services that would be workable within the philosophy of vocational training programme in Saudi Arabia. The significance of the study lies in the fact that it furnished a sound programme of guidance to fulfil the needs of the students enrolled in vocational training programmes. The study results offer suggestions for a sound guidance programme. Until now, vocational training programme in Saudi Arabia has not been backed up by a formal guidance programme or a counselling service (pp. 25-26).

Campbell (1981) conducted a study of the development of a modern and diversified industrial base in Saudi Arabia. He said there was a critical shortage of skilled manpower. This shortage has been a nagging problem which is becoming more acute as the economy continues its explosive growth. The late King Faisal recognised this problem when he endorsed vocational education training so that Saudi's young people would be able and willing to staff the projects which required manpower. Because of Saudi Arabia's limited human resources and a shortage of trained manpower, foreign workers are currently providing the bulk of the skilled work force. It is clear that the indigenous population must be educated and trained for modernisation. The mass immigration of expatriot workers, therefore, should be only a short term remedy to the manpower problem until vocational and technical education training can produce a

skilled Saudi workforce. Vocational and technical education were, until recently, the responsibility of the Ministry of Labour and Social Affairs. Under this arrangement vocational training functioned independently from the general education system. This situation created problems of co- ordination and redundancy between vocational and technical education and vocational training, so the government combined both in one new organisation. This public organisation for vocational and technical education and vocational training is governed by an administrative board comprised of members from the private and public sectors (pp. 3,5).

Al Majed (1983) commented that Saudi Arabia chose the fastest way to carry out simultaneously heavy and light industry programmes. Even though Saudi planners have given special attention to the development of human resources it is still the major weakness in the Saudi development process for many reasons:

1 The huge number of non-producing employees;

2 There are many social restrictions facing working women in Saudi society.

For these reasons Saudi planners faced two alternatives:

(a) To execute the development plan slowly and to develop the economic process in step with the development of human resources.

(b) To depend on foreign labour and develop Saudi human resources gradually.

The Saudi planners chose the second alternative.

Al Majed concluded that foreign labour has some obvious advantages and disadvantages.

The advantages are:

- It allows Saudi Arabia to execute its development plan as quickly as possible.
- Labour supply exceeds demand.
- It helps the rapid transfer of technology.
- It provides an opportunity to train Saudis "on the job".

The disadvantages are:

- Imported labour has an effect on the ethics of Saudi labourers, especially those who work for the government.
- Labourers coming from different countries have different religions, different cultures and different characteristics (pp. 64,67,68).

Roy (1992) argued that in the present economic circumstances of declining oil revenues academic performance and diversification become increasingly important. Growing unemployment at all levels of education, excluding technical education is increasing. Several new technical and vocational institutions have been opened to attempt to draw Saudi nationals to fill posts now held by foreigners. Attendance was below expectations. Status, prestige and tradition play a major role in the failure to attract students into the technical and vocational education streams because Saudi students believe that technical and vocational education degrees are dead-end jobs strictly involving manual labour. This situation will make the Kingdom continue to depend on foreign labour (p. 478).

In summary:

- Labour markets in Saudi Arabia cannot be developed without dependence on foreign skilled workers.
- VTE is looked down on compared with general academic education.
- One of the reasons for the limited enrolment in VTE is the poor quality of teachers and administrators.
- There are poor buildings and equipment which is not suitable for this kind of education.
- Most VTE graduates join the public sector not the private sector.
- There is lack of co-operation between VTE leaders and industrial sectors.
- There is lack of evaluation and administration of follow-up on students who drop out and those who graduate from VTE.

- Extensive public relation programmes should be initiated to help students and parents to improve VTE.
- Programmes of guidance are needed to fulfil the needs of the students enrolled in VTE programmes.
- Because VTE functions independently of the general education system that creates a problem of lack of co-ordination between them.

3.2.2 Kuwait

According to Azzam (1980), the creation of the industrial sector became a very important factor in the Gulf countries in meeting the rapid expansion of needs, but the Gulf countries face the critical problem that the size of their population is very small. In 1977 the total population of Kuwait was around 1,135,000; of Bahrain 270,000; of the U.A.E. 920,308 and of Qatar 233,520 (p. 27). The Co-operative Council of the Arab States of the Gulf (1985) estimated that the population of the Gulf region was around 12.5 million in 1981 and the total labour force of the region was estimated at 4.1 million in 1980, about 33%. The desire of the Gulf countries to expand their economies led rapidly to a demand for labour, and because of the small size of their population, this opened wide the gates to immigrant workers. Foreign workers have come in at all levels, from unskilled or semi-skilled workers to those with the highest professional qualifications (p. 74). Without such workers it would have been very difficult for the countries to expand their economies.The council suggested that governments should give more attention to upgrading the employed worker through on-the-job training and academic and vocational programmes which should be designed in such a way as to bring about the technical, managerial and manual skills needed to power the national development process. As skilled manpower constitutes the major obstacle to development in the Gulf countries, every effort should be made to provide education and training for a wider sector of the population (Azzam, 1980, p. 42.).

Technical and vocational education was established in Kuwait in 1930, after the discovery of oil, to meet the urgent demands of the oil industry. In 1939, the Director

of the Kuwait Oil Company (KOC) proposed plans to introduce technical education. These plans were:

1. Young people should follow a programme for three months through the training centre for lower grades of artisans and after completing their course, trainees would be integrated into production work under close supervision;
2. The other suggestion was to send young Kuwaiti people to Bahrain technical schools under the sponsorship of KOC (Issan, 1986, pp. 313,314).

Al-Misnad (1984) conducted a study of the development of modern education in Bahrain, Kuwait and Qatar and gave some attention to the technical and vocational education in Kuwait. She suggested that Kuwait initially intended to train skilled workers and technical assistants in different fields of production and service industries. The responsibility for this was taken by many authorities and was not that of the Ministry of Education alone. An industrial school for boys, known as the technical college, was established by the Ministry of Education in 1954/55 to train skilled labour for many trades, including car mechanics, electrical fitting, cabinet making, radio repairs, refrigeration and air conditioning. In 1963/64, the Ministry of Education established commercial secondary schools, and schools for girls in 1967/68.

These schools were to train boys and girls for a semi-skilled level of commercial and business opportunities; other ministries were also organising different types of vocational institution to carry out their own needs. Al-Misnad concluded that the administration in the newly-organised technical and vocational education departments made comprehensive revision of their plans necessary, the present scheme of technical and vocational education being based on the recommendations of UNESCO experts. These recommendations were as follows:

> "1 the reform of technical and vocational education should begin with a reform of the system of general education. Technical and vocational education should be merged with general education as an integral part of it, and at an early stage, so that the student would realise its value. Technical and vocational education should be given the same status as general education in all study programmes and its students should be given the same opportunities in the labour market as the students of general education;"

"2 technical and vocational education in its new form and with the new programme of study should be based on practice in Kuwait. The planners of educational policies should take into consideration Kuwait's circumstances in all its geographic, demographic, economic, social and cultural aspects. They should also take into consideration future trends so that the system would be capable of responding to all future development in these areas" (pp. 250,253).

Issan (1986) conducted a comparative study of the reorganisation of secondary education in the Arab states of the Gulf. The author reported that in the developing countries and especially in the Arab Gulf states there was indeed a problem of skilled labour force shortage. There is also a disparity between the hopes of individuals and the needs of society, and the ability of the educational system to meet these needs. Education can give people better opportunities for planning their education on a long-term basis and can contribute towards a more equitable social allocation of education resources, facilitate the closer mutual adjustment of education and the labour market, give students a wider experience and better motivation and make it easier for young people to enter a working life (p. 4).

Al-Musailim (1987) investigated the current problems of education administration in the state of Kuwait and pointed out that the development of higher education had received much attention, and also that the need for technical and vocational education in Kuwait was concerned with advancing its own people to fulfil the aspirations of future society through providing them with the type of education that is needed within its industrial, agricultural or commercial settings. Al-Musailim pointed out that in 1979 the Department of Technical and Vocational Education issued a statement of principles and objectives:

" 1 from modern technologies only those should be selected that are best suited to the development stage and plans in Kuwait;

2 new technologies should be implemented in the way best suited to the working conditions in Kuwait;

3 complicated modern machinery should be maintained so that it can be used for a longer period and remain in good condition" (p. 216).

Al-Ali (1993) conducted a survey of technical and vocational education in Kuwait; he said that even with vast economic resources in Kuwait the country suffers from

shortages in the skilled and semi-skilled labour force, in all economic sectors. The government of Kuwait, in order to solve this problem, established a number of institutions to meet government demand. One of the major findings of the study was that the reason for the low number of students who enrolled in vocational and technical education institution was that they accorded vocational occupations low status because most vocational jobs are done by non-Kuwaiti people and also because the VTE is followed joined by students with a poor academic background, and that there was a lack of career guidance in schools to help students to choose appropriate educational path (pp. 18,19).

Al-Ali (1994) indicated that in Kuwait there is no specialised institution responsible for linking higher education institutions with local industry and commerce, and there is a need to develop such an organisation to bring together industry and higher education. The University of Kuwait, as pointed by Al-Ali, should establish closer links with industry to introduce new fields. Al-Ali concluded that even the Kuwaiti government should play an active role in promoting close contacts between higher education and industry to narrow the gap between them (p. 57).

One can observe that:

- The demand for foreign workers in Kuwait results in a shortage of a skilled national labour force also because of the small size of the population.
- The government of Kuwait paid more attention to upgrading their own human resources through on-the-job training and vocational and academic programmes.
- Young adults in artisan levels continue for three years before they are integrated to production work.
- The responsibility of training skilled workers should not be on one sector but should be co-ordinated from amongst different sectors.
- Vocational training provides young adults with a wider experience and better motivation and makes it easier for young students to enter the workforce.

- One of the reasons behind low enrolment in VTE in Kuwait is the lack of career guidance.

3.2.3 Egypt

Naagi (1971) reported that vocational education in Egypt contains several branches of schools, the most common being industrial, agricultural and commercial schools, and some technical schools for girls which offer more in vocational commercial training, because of the demand of the labour market; this gives girls an equal chance of economic independence (pp. 58,62).

Galal (1979) investigated the problem of manpower development in Egypt. The study's aim was to determine under what circumstances and by what means the quantity and quality of manpower training in the education system of Egypt could be matched with actual manpower needs. Galal's results revealed an acute shortage of qualified teachers, a lack of vocational guidance, and a very low wage differential between skilled and unskilled workers. The author believed that preference should be given to those types of education which are crucial to economic development because the educational budget of Egypt had been strained. He also recommended the comprehensive secondary school system for Egypt because it would be economically feasible, socially acceptable and politically tolerable (pp. 50,53).

Sanyal (1982) studied university education and the labour market in the Arab Republic of Egypt. He noted that technical schools and general secondary schools run on the same lines for a three-year period to meet the needs of industry and agriculture and commerce. At the end of the course, students take examinations and those who pass obtain a diploma in their specialisation; those who obtain high grades have the opportunity to continue higher education and are accepted into the universities. This technical education system contains five years of schooling for the purpose of preparing technicians for industry, commerce and agriculture. The school provides students with basic technical subjects plus general education and practical training.

Egypt is also facing the problem of a shortage of technologists and it would be extremely difficult to upgrade the masses of uneducated and unskilled workers to the necessary level in the handling and controlling of technology. Another difficult factor facing the Egyptian technical schools is that there is an imbalance among technical education branches and the labour market, and an imbalance which exists between upper secondary schools and technical schools. Up to now, agriculture in Egypt has been the principle focus of the economy. Students hesitate to enrol in commercial education, which has the highest priority and accounts for 50% of the total enrolment in technical education, because of the social status and higher initial wage enjoyed by graduates. Private post-secondary technical institutes for a period of two years after secondary education comprise secretarial, commercial work, radio and television, telecommunication and surveying. At the end of the course the graduates are awarded a diploma (pp. 84,102).

Hansen (1982) conducted a study of equal employment opportunities in Egypt. He concluded that the Egyptian education system, including vocational training, had expanded rapidly over the past three decades, and had reached a stage where reform of the system was needed. The Ministry of Manpower had conducted a survey in order to obtain background information on existing training and vocational education in 1979. This survey revealed that there were 218 training centres. Most teachers and trainers did not work in this kind of education because the promotion and individual development programme for their career in government could be difficult to gain; a further factor was that wages were very low. Higher education was most attractive to the young Egyptian, and vocational education less attractive. The reason for not participating in vocational and technical schools was that after graduation, these graduates are seen as having had a second-class education, society according it little respect (pp. 249,252,261).

Salmi (1991) argued that vocational and technical education in Egypt is in crisis, after being hailed as a miracle solution to cure the problems of traditional general education

systems in preparing youth for entry into the labour market. Education administrators and policy makers are increasingly confronted with problems of low-quality training. This led to the observation that too much emphasis had been put on general education and that as a corollary vocational training had been neglected (p. 46). Also traditionally Egyptians were reluctant to accept less prestigious blue collar jobs. The government is attempting to channel more secondary school graduates into technical and applied training. Egyptian educational officials take the long view with respect to altering public' attitudes, relying on public education programmes and publicity campaigns to influence present thinking on technical and vocational education. Vocational education and training faces an obstacle in that the government has not been able to offer sufficient finance to support the rapid expansion (The Economist Intelligence Unit, 1994, p. 17).

It could be concluded that in Egypt:

- More than one area for VTE specialisation is needed which provides girls with the opportunity to enrol in this kind of education.
- There is a lack of guidance and low wages for VTE graduates.
- Graduates with high grades from VTE institutions are accepted in the University.
- Schools in Egypt provide students with basic information about VTE subjects along with general academic subjects.
- There is an imbalance between technical schools and the labour market.
- The majority of VTE staff do not work in their chosen career because the promotion and development programmes for that career are difficult to gain.
- The low quality of VTE graduates is because of concentration by government on general academic education rather than VTE.

3.2.4 Conclusion

In conclusion there are some main features and some similarities and differences between industrially developed countries and Arab countries which can be drawn from the analysis so far:

- One approach involves the similarities of actual work experience in the classroom or outside the workplace. This might allow the educational system to strengthen the relationship between school on the one hand and work and the community on the other.
- The most serious problem facing Arab countries is the absence of appropriate institutions for VTE. In industrial countries the institutions have the appropriate equipment to function well.
- Both industrial countries and Arab countries emphasise strong ties to local employers and the local economy.
- The opportunity for VTE students to join higher education is guaranteed while in Arab countries it is difficult for most VTE graduates except for a limited number with very high grades.
- Both UK and Arab countries shared the problem that industry suffers from an underskilled work force and also from serious skill shortages.
- The VTE certificate obtained in industrial countries is recognised in many countries while in Arab countries it is not.
- Both the UK and Arab countries are trying very hard to change the present situation of VTE and take the right decisions to enable them to develop their industrial or business needs through preparing adults for working life and associating education and training with the work place.
- VTE in Arab countries has a similar problem to that which is facing Germany's dual system, viz that parents and pupils have no opportunity to exercise their rights.

- Germany usually provides guidance to young people during their attendance on VTE programmes in order to prepare them for work, while in Arab countries there is a lack of guidance and counselling.
- In Germany the students have a better understanding and competence to decide the career they wish to follow without being influenced by others, while in Arab countries some students join a specialisation which does not match their ability.
- Students in Germany sign a contract with a company and the company provides a training programme for them; they also spend two days a week in training at the public vocational school, while in Arab countries students sign a contract with a company when they finish their training programmes.
- The United States focuses on facilitating the maximum development of each student as an individual while Arab countries usually give more attention to students as a group.
- In Japan most VTE and training programmes are provided by industry itself while in Arab countries VTE and training programme are provided by VTE institutions.
- In the United States Junior Colleges are established to prepare technicians and to provide a transitional period for students to enable them to join the four-year programmes of universities or colleges to continue their higher education while Arab countries do not provide this opportunity.

3.3. Vocational Education in other Developing Countries with Particular Reference to Brazil

Introduction

The economic role of education is important in the development of newly-independent nations. The principal objectives of these countries are:

- to boost their economic growth;
- to develop their culture;
- to improve their social standards and standards of living;

As a foundation for improvement, these countries give much attention to vocational, technical and general education because real progress can be made only when there is a pool of educated people from which to draw. Such people are well capable of utilising their resources, and for this reason developing countries have always given education a high priority, even if the amount of finance available in a country is very small. First priority should always go to education and training because the return from such investment benefits the country in a way no other investment can (Al-Majed, 1983, p. 17). Cummings and Benett (1992) argued that:

> "without properly trained personnel in industry/commerce and in the public service, a country is not in the position to exploit its own national resources" (p. 191).

Okwuanaso (1985) identified several themes in developing countries: the need for the curriculum to provide a greater spectrum of vocational courses together with opportunities for work experience. In order for industries to expand in developing countries there is a need for effective procedures to create a skilled and motivated work force with an effective technical and vocational training education in conjunction with a government plan, because planning is one of the most important requisites for any country wishing to develop continuously; once that plan is approved it should become the law of the country. Long-range planning for the provision of sufficient teaching personnel is another of the many difficult problems faced. One reason for this

is that training takes a relatively long period of time. Okwuanaso (1985) emphasised widening vocational curricula to reflect a cluster of concepts of exploration and instruction in groups of related occupations rather than stressing isolated skills (eg. concepts and skills in automotive and power services rather than auto mechanics, auto body welding or painting). Although cluster programmes do not provide the depth of specialised instruction possible in teaching single skills developing countries need to furnish students with entry level skills in a range of related occupations to make them more employable. He suggested that the discipline and reality of the work place is very important for graduates of vocational programmes to succeed in the labour market. The form of school-supervised co-operative experiences in local businesses, industries and agriculture may gain opportunities for work experience.

He agreed that in developing countries the education policies reflect the determination of their government to become self-sufficient in their manpower needs, but this objective is problematic because most developing countries are plagued by high rates of unskilled youth unemployment. Vocational skills training in school has been accepted as one of the most efficient solutions to provide young people with the necessary skills. However, some planners believe that the amount of formal technical vocational instruction alone will not reduce the volume of unemployment or necessity of any manpower needs but developing vocational training outside the schools through the use of auxiliary institutions with special vocational institutes should be created in certain cases, where their endeavours could be closely meshed with "on the job" training to match actual manpower requirements with skills training (pp. 9,10). Cummings and Benett (1992) explained that:

> "the training of such trained personnel in any country is a complex process. It requires also the design and implementation of adequate training and education programmes, including the setting up of an appropriate machinery for the assessment of trainees" (p. 191).

3.3.1 Brazil

During World War II the industrialisation of Brazil was started. Much attention was given specifically to vocational education, because the country had to depend on its own production for most manufactured goods. This required manpower with high skills. During the 1940s the laws for industrial, commercial and agricultural education were formulated and enacted, and National Service for Industries and Apprenticeships (SENAI) was founded. The Industrial Education Act defines vocational education as an activity aimed at:

> "1. The interests of the worker who will acquire the preparation for this job and his firm's accomplishment;
>
> 2. The interests of the enterprises which will obtain a sufficient number of well-prepared workers according to their growing and changing requirement;
>
> 3. The interests of the nation promoting continuously the mobilisation of efficient manpower for its economy and culture" (Ammann, 1984, p. 87).

Gallart (1986) presented a paper concerning the "secondarisation" of technical education in Argentina and Brazil. He said that in 1971, the government of Brazil decided to "vocationalise" the entire second cycle (i.e. second grade) of secondary education across the entire country. The first cycle was integrated with primary education in a basic elementary cycle of eight years, with a general education focus. The second cycle was to be taught in all schools and was to be mainly vocational. The debate on the reform revealed the importance attributed to vocational education during the second grade, and in order to prepare the student for work by awarding professional qualifications (p. 22). Many schools still offer a general programme only, and cannot yet meet the requirement of the Educational Reform Law (1971) for compulsory technical and vocational education.

One of the major reasons for not adopting technical vocational programmes is the preference of students and their parents for a general education leading to college entrance. The other significant reason is that approximately half the schools are private, and are unwilling to invest in costly technical vocational programmes. The Education Reform Law (1971) stipulated that the selection and planning of the technical

vocational programme should be undertaken in the light of labour market needs (Tavareas, 1986, p. 113).

SENAI has stressed the important role played by education in the world of work. SENAI is also aware of its responsibilities for developing the individual potential of each of its students, and to help those enrolled in its Vocational Training Centres to serve a useful function in society. For this reason SENAI constantly seeks to improve teaching methods by updating machines and tools and, above all, by preparing its instructors well (De Andrade, 1984, p. 45).

So as to ensure efficient development of their programme, several State Departments of Education and local school systems have tried to estimate labour market needs through the use of manpower surveys. However, lack of labour market data at regional and national levels, as well as input data essential to manpower projections, seriously limit rational technical vocational planning at regional and national levels (Tavareas, 1986, p. 116).

One of the major efforts towards solving this problem is an attempt to establish a follow-up system for technical vocational graduates. This involves local schools, State Departments of Education, and the National Office for Primary and Secondary Education, through a data collection programme which facilitates data treatment and analysis (Tavareas, ibid, p. 120).

For a generation Brazil has pioneered development of mixed public and private vocational training. This system has paralleled the traditional technical education offered by the public schools. Nevertheless, during the rapid economic growth of the 1970s, the vocational education system was both qualitatively and quantitatively sluggish in responding to the demands made by the economic expansion. The reaction of education and training organisations to changes in the labour market has always been slow, particularly in free market economies, showing a substantial time-lag in output. Under a command economy, with central economic planning, the integration of education and training tends to be more straightforward. However, even with national

economic planning, integration between planning for vocational training with the economy as a whole was not occurring in 1979. At that time national economic planning was the responsibility of the Secretary of Planning, whereas analysis of the labour market and of vocational training was performed by Ministry of Labour.

In order to integrate all vocational training programmes, the Brazilian government established in 1976 the National Vocational Training System, which was designed to co-ordinate the activities of all institutions concerned with vocational training. The goal was to establish a national system of human resource development (Horowitz, 1984, pp. 39,40).

One can extract issues from developing countries and Brazil:

1- Developing countries give much attention to vocational education as investment to educate their people.

2- To develop and expand industries the developing countries should have effective procedures to create skill and motivation in the work force, linked with effective VTE government plan needs.

3- VTE graduates can succeed in the labour market if they have discipline and the reality of the work place.

4- VTE programmes in school should be meshed with "on-the-job" training to provide actual manpower needs of skills training.

5- The government of Brazil established the Department of National and Vocational Training to ensure efficient development of VTE programmes. Its major functions were to co-ordinate the activities of all institutions concerned with individual potential of each student, to improve teaching methods by updating machines and tools and to prepare instructors well, using manpower surveys to estimate labour market needs, to establish a follow-up system for VTE graduates.

3.4 Conclusion

In conclusion one can argue that:

- In Brazil the Department of National Vocational Training is responsible for all VTE functions while in some developed countries and most Arab countries there is more than one authority responsible for VTE activity.
- Brazil and industrial countries usually develop the individual potential for each student whilst Arab countries give more attention to the group.
- Both Brazil and industrial countries have follow-up programmes for their graduate students, this does not exist in Arab countries.
- Industrial countries and Brazil have manpower surveys to estimate the labour market needs, this exists in some Arab countries.

One of the prerequisites for the development and modernisation of a country is technical and vocational education and training. This study assesses the role of the VTE in providing a country's manpower with skill and the proper knowledge needed. This becomes apparent through analysing a number of industrial countries and Arab and non-Arab countries. As shown in this chapter unless such programmes are given serious attention the country will never reach its target and will suffer from an obvious lack of a skilled and semi-skilled labour force and this, consequently, will have an adverse effect on the country's economy and industrial sectors. From discussion progress about different countries it could be seen that there are some features in this chapter which influenced the questionnaires of students and staff survey in chapter Five. This chapter has also set a range of issues which will be addressed in the empirical research and has suggested a range of recommendations which will fit into the overall recommendations of the thesis in chapter 7.

Chapter 4

Research Design

4.1 Introduction

The main objective of this research is to identify the problems of vocational and technical education (VTE) programmes in Qatar and to suggest how changes and improvements in these can be brought about. The author decided to adopt a survey style research approach, because it is a method for collecting large scale data from which patterns, stratification and generalisations can be derived and inferred. It reveals and addresses factors involved within and across situations, evaluating their relative importance and enabling powerful conclusions to be drawn. The principal instruments used in survey research are observations, interviews and questionnaires. These are the tools of descriptive research.

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 observation (p. 10).

Descriptive types of research Ary and Razavieh (1990)

> are designed to obtain information concerning the current status of phenomena. They are directed toward determining the nature of a situation as it existed at the time of the study (p. 381).

As reported in chapter three, lack of resource materials such as theses, reports and documents about vocational and technical education in Qatar, the great need for skilled workers for industry, and the problems facing the developments of VTE systems, meant that up-to-date information was needed, especially for those who are connected with human resource development. A questionnaire was thought to be the most useful and economical form of large scale data collection. Two questionnaires were designed to collect data. The first one was for VTE staff in different specialisations covering: (a) teachers, (b) administrators, (c) technical trainers. The second questionnaire was for

students in all of the VTE institutions, covering: (a) Industrial secondary school, (b) Commercial secondary school, (c) Qatar General Petroleum Corporation (QGPC Training Centre), (d) Nursing School, (e) Technology College.

4.2 Population and Sample:

Borg and Gall (1983) defined the sample and population as follows:

> 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 (p. 240).

Sampling, then, involves choosing a part of a population which is, as far as possible, representative of that population (Cohen and Manion, 1980, p. 98). If the researcher is to generalise the results accurately (Gay, 1976, p. 67), in this case to all staff and students of VTE, then it is important to select the correct sample. There are various types of sampling techniques.

4.2.1 Probability and Non-probability Sampling

A basic differentiation can be made between probability and non-probability sampling. The feature of probability sampling is that each of the groups has the same probability of being involved in the sample. In non-probability sampling there is no declaration that every unit has same chance of being included. If a set of units has no chance of being included in the sample a restriction on the definition of the population is implied; that is, if the characteristics of this set of units are unknown then the precise definition of the population also stays unknown. A probability sample design makes it possible for the researcher to predict the range within which the findings based on one sample are likely to differ from what he or she would have found by studying the whole population. A probability sample is very useful for making generalisations about the whole population. It often uses large scale survey data (as in this thesis). Moser and Kalton (1971) comment on non-probability samples thus:

> In spite of the great advantage of probability sample social scientists do sometimes employ non probability samples. The major advantages of non probability samples are convenience and economy under certain circumstances. When a population cannot be defined because of factors such as the availability of a list of the population, the researcher may be forced to use non probability sample (p. 127).

A. Types of Probability Sample

There are four major types of probability samples: 1- simple random sampling; 2- systematic sampling; 3- stratified sampling; 4- cluster sampling.

1. Simple Random Sampling:

In simple random sampling, all the subjects in the defined population have an equal opportunity of being selected as a member of the sample (Borg, 1983, p. 73). Whilst every person in this approach has an equal chance of being selected for participation if the target population is large a simple random sample may be difficult to draw using random numbers simply because every one would have to be assigned a number (Anderson, 1990, p. 199).

2. Systematic sampling:

As with simple random sampling the technique of systematic sampling is used to obtain a sample from a definite population. This kind of technique can be applied if all members in the designated population have already been placed on a list in random order (Cohen and Manion, 1989, p. 102). It requires the researcher to choose an element from the study population at some appropriate interval determined by the ratio between the required sample size and the size, calculated or estimated, of the total population. For example every fifth name from the telephone directory or every ninth student from a high school class, may be selected. The advantage of this type of sample is that this procedure does not require that all units in a population be identified in advance of selection, that they be immediately accessible, or that the exact size of the population be known. A major disadvantage with this strategy is establishing that the

sample interval is unaffected by some confounding fluctuation or variation in the population (Goetz, 1984, p. 74) e.g. the problem of periodicity.

3. Stratified Sampling:

> Stratified Sampling is used primarily to ensure that different groups of a population are adequately represented in the sample so that the level of accuracy in estimating parameters is increased. Furthermore all other things being equal stratified sampling reduces the cost of execution considerably. The underlying idea in stratified sampling is that already existing knowledge of the population is used to divide it in to groups (Nachmias and Nachmias, 1981, p. 434).

For example:

> group A, might contain males and group B, females. In order to obtain a sample representative of the whole population in term of sex, a random selection of subjects from group A and B must be taken. If needed the exact proportion of males to females in the whole population can be reflected in the sample (Cohen and Manion, 1989, p. 102).

Whilst it ensures that each group is represented and it enables group comparisons to be made it usually requires more effort than random sampling because the population to be sampled is not homogeneous but in essence consists of several subpopulations (Wiersma, 1986, p. 269). It generally needs a larger sample size to show statistically meaningful results because you should have at least thirty persons in each stratum group or school to make comparisons meaningful (Anderson, 1990, p. 199).

4. Cluster Sampling:

This is used when it is more appropriate or convenient to select groups of individuals than it is to choose individuals from a defined population (Borg, 1983, p. 73). For example:

> It is used when the population to be studied can be combined naturally or analytically into groups that are similar. After all the aggregated groups are designated a sample of them is drawn then all or some sample of individuals from within the selected clusters are studied (Goetz, 1984, p. 74).

Cluster sampling can be used where the population is very large or distributed over a wide geographic area (Gay, 1981, p. 93). Whilst cluster sampling is profitable in situations where the population members are naturally grouped in units that can be conveniently used as clusters (Anderson, 1990, p. 199) the correct sample size may not

be known until after the sample is selected. This is because clusters usually are not the same size and the final sample size depends upon those clusters being randomly chosen (Wiersma, 1986, p. 273).

B. Non-probability Sample Designs

There are three major types of non probability samples which have been used by social scientists: 1- convenience samples; 2- purposive sample; 3- quota samples.

1. Convenience Samples:

A convenience sample is chosen when the researcher chooses whatever sampling groups are suitable or happen to be available. It is difficult to calculate the representativeness of convenience samples, and one cannot attach estimates of standard errors to the sample results (Nachmias and Nachmias, 1981, p. 430). Whilst great effort is needed to select the sample, because the researcher can choose for the sample whoever happens to be available (Gay, 1992, p. 138), the researcher can have no assurance that his results are generalisable (ibid, p. 138).

2. Purposive Samples:

With purposive samples, the sampling groups are chosen subjectively by the researcher who tries to achieve a sample that represents a given population. The opportunity that a specific sampling unit will be chosen for the sample derives from the subjective judgment of the researcher, i.e. the researcher might deliberately select a non-representative sample (Nachmias and Nachmias, 1981, p. 430):

> with good judgment and an appropriate strategy one can hand-pick the cases to be included in the sample and thus develop samples that are satisfactory in relation to one's needs the trouble with the method is that when there are no marked changes in the political atmosphere one can probably do as well by forecasting the same returns that obtained in previous years without doing any interviewing at all; when changes are occurring, one needs to know how the changes are affecting the selected districts in comparison with other districts (Selltiz, 1974, p. 520).

3. Quota Samples:

According to Nachmias and Nachmias (1981) the aim of quota sampling is to choose a sample that is as representative as possible of the frequencies with which members of given sub-groups occur in the population. For example, if it is known that the population has equal numbers of Catholics and Protestants, the researcher selects an equal number of Protestants and Catholics in the sample. Whilst this approach achieves representativeness (Sellitz, 1974, p. 520) the major shortcomings of quota samples (the impossibility of estimating sampling errors), are exacerbated by two other limitations:

a- within the quota groups, interviewers may be unable to acquire a representative sample of interviewees.

b- securing administrative approval to involve students in a study is not generally easy (Gay, 1992, p. 139).

4.2.2 The sample selected

In the self-administered questionnaire, 224 students were randomly selected from different vocational and technical education institutions out of a total number of 823 students, and 121 staff, administrators, trainers and teachers were randomly selected from a total number of 203. The researcher used a random stratified sample only in selecting the male students' sample to ensure that all the groups' population were equally represented in the sample (Gay, 1992). These samples were taken as representative of all vocational and technical education institutions. Gay (1973) stated that if the sample is 10% of the total population this size of sample is considered satisfactory for representativeness. Cohen and Manion (1980) stated that no exact number that can be generally prescribed to be adopted in all studies as far as the number of respondents is concerned, nevertheless

> a sample size of 30 is held by many to be the minimum number of cases if the researcher plans to use some form of statistical analysis on his data (p. 101).

The target population for the random sampling was students and staff from seven vocational and technical education institutions in the state of Qatar during the academic year of 1992-1993. These institutions played prominent roles in the

development and conduct of vocational and technical education in Qatar. They are as follows :

1. Industrial School.
2. Regional Training Centre.
3. Commercial School.
4. Qatar General Petroleum Corporation Training Centre.
5. Nursing Institution (Ministry of Health).
6. Technological College (University of Qatar).
7. Health Inspection Institution.

The Staff Sample

The total sample for the first questionnaire (of staff) consisted of 100 full time male and 21 female staff members; because the number of females was so small the researcher thought it beneficial to include them all in the survey.

There were some staff members who had recently joined vocational and technical education institutions at the time the study was conducted. These (62 staff) were not included in the final survey as it would be difficult for them to understand the situation of vocational and technical education in Qatar; the information demanded by the questionnaire required that respondents were reasonably experienced in the field of vocational and technical education in Qatar.

One of the seven institutions (Qatar General Petroleum Corporation Training Centre: Q.G.P.C.T.C.) has no full time staff trainers. Their trainers usually spent a maximum of six months in Qatar, and were not Q.G.P.C.T.C. staff, brought in from outside. These 20 trainers also were excluded from the study. The total staff sample was therefore 121 full time staff members out of a total population of 203.

The Student Sample

The second target population was the students, both male and female, from the six vocational and technical education institutions. The researcher selected 170 participants by randomly sampling male students from a total population of 823, and by

using the total population of female students. There were only 54 female students, a small number compared to the number of male. The researcher included in the sample the total population of female students in order to be sure that the sample represented groups of people of different age, nationality, specialisation and knowledge. These were organised in three grades: first, second and third grades. The researcher did not include the first grade in the survey because at the time the survey was conducted these students had completed only two months in VTE institutions and it would have been difficult for them to understand the situation of VTE and its problems in Qatar. One of the seven institutions (the Health Inspection Institution) had no students and was not included in the second target population although staff were questioned. The author obtained a list of the names of students in the six VTE institutions and randomly selected 170 male and all 54 female students out of 823 students from grades 2 and 3 from different specialisations and different age groups. Grade 2 students are usually between the ages of 16 and 18, and Grade 3 students between the ages of 18 and 19. However, in QGPC (T.C) and Technological College (University of Qatar), the age groups for Grade 2 were between 20 and 21, Grade 3 age groups were between 21 and 23.

4.3 Methodology

Methodology refers to the approaches or style used in 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, 1986, p. 41). Educational research methodology is the systematic application of a method to the study of educational problems. The aim of educational research which follows from the objectives of natural science, is to explain predict and or control educational phenomena; As 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 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 resolve the issues under scrutiny. These can be organized into quantitative and qualitative approaches. Morrison (1993) provides a fuller analysis of these, see Appendix B.

By quantitative methods (e.g. Historical research, Descriptive research and Correlational research) researchers have come to mean the techniques of randomised experiments, quasi-experiments, paper and pencil (objective) tests, multivariate statistical analyses and surveys. Qualitative methods include ethnography, case studies, in-depth interviews and participant observation (Reichard and Cook, 1979, p. 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, p. 3), e.g. phenomenology, anthropology.

Morrison (1993) argued that a quantitative style is more formal and pre-planned to a high level of detail, whilst the qualitative style is less formal and the detail emerges only once the evaluator is in situ. Quantitative approaches are 'front-loaded,' that is, they desire all the groups, multiple choice questions, tests, criteria of the research to be worked out in advance. Qualitative approaches are 'end-loaded,' that is, it is much faster to 'get going' in this style because the significant categories only appear once initial data have been gathered and filtered. However, once data have begun to be gathered, the slow and painstaking process of coding and reading the data is undertaken to see which issues seem to be emerging as significant, and then enquiring further about them in order to identify emerging issues of importance. The two approaches are different, as Morrison (1993) concluded, because they derive from different backgrounds. The quantitative approach derives from the natural positivistic sciences, whilst the qualitative style has a clear affinity with the anthropological sciences in which studies of social groups are performed to determine the uniqueness of specific situations, and also with the social scientists of the interactionist school whose practitioners start from the premise that people behave to each other on the principle of their own judgments or explanations about each other or about situations. The intentions of the former are to observe as an outsider, the intentions of the latter

are to present the situations as they are seen through the eyes of the participants (Morrison, 1993, pp. 35,36).

There are several styles of research which utilise quantitative and qualitative approaches. 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 conclusion about past events (p. 48).

It involves studying understanding and explaining past events. The researcher used this approach in the review of the literature and chapter two.

Action research is used to find a solution for classroom problems. It is concerned with a local problem and is conducted in a local setting. The primary goal of action research is the solution to a given problem rather than a contribution to science. Whether the research is conducted in one classroom or in many classrooms the teacher is very much a part of the process (Gay, 1981, p. 10). Action research is not interested in generalising its results beyond the local school district and in many cases is concerned only with a single school or classroom. Action research is less rigorous and easier to do than other - quantitative - research, and selecting a sample is much easier in action research since the investigator is usually interested in generalising only to a small accessible population, such as all third grade classes in his own school (Borg, 1981, p. 257). However Borg (ibid, p. 14) argues that action research is limited by being non-generalizable. The researcher did not use action research because the researcher wished to make generalisations about different institutions, different age groups and different levels of classroom - which is difficult to address in this approach.

Correlational research

> attempts to determine whether and to what degree a relationship exists between two or more quantifiable variables. The purpose of a correlational study may be to establish relationships or to use relationships in making predictions (Gay, 1981, p. 13).

This approach has several advantages:

> 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, p. 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, p. 165).

Correlational research was used in this thesis as it wished to examine degrees of association between identified variables.

A case study looks at an individual group or institution. The primary purpose of a case study is to determine the relationships amongst the factors that affect the current behaviour or status of the subjects of the study (Gay, 1981, p. 171). Case studies have several strengths:

1. Case study data, paradoxically, is strong in reality but difficult to organise. This strength in reality is because case studies are down-to-earth and attention-holding in harmony with the reader's own experience, and thus provide a 'natural' basis for generalisation.

2. Case studies present research or evaluation data in a more publicly accessible form than other kinds of research report, although this virtue is to some extent bought at the expense of their length. The case study is capable of serving multiple audiences. It reduces the dependence of the reader upon unstated implicit assumptions... and makes the research process itself accessible. Case studies therefore may contribute towards the 'democratisation' of decision making (and knowledge itself). At its best, they allow the reader to judge the implications of a study for himself (ibid, p. 150).

On the other hand

the major problems with case studies are possible observer bias (the observer sees what he or she wants to see) and lack of generalisability (Gay, 1976, p. 137).

The researcher did not adopt the case study research because it is difficult to make generalisations from this approach.

Ethnographic research comprises analytical descriptions or reconstructions of intact cultural scenes and groups and recreates for the reader the shared beliefs, practices, artefacts, folk knowledge and behaviours of some groups of people. Consequently, the ethnographic researcher begins by examining even very

commonplace groups by processing in a fresh and different way as if they were exceptional and unique. This allows investigators to discern the detail and the generality that are necessary to provide rich, credible description (Goetz and Lecompte, 1984, p. 2; Anderson, 1990, p. 151). However, it is not easy to enter this field of study, because the researcher needs the permission of those who control access, and the respect and trust of those in authority, and must establish a working relationship which permits the researcher to observe, to question, and to participate, and all this process must be done without appreciably altering the situation. It is obvious that if the researcher `blows his entry' the researcher may jeopardise the whole program of research (Anderson, 1990, p. 151, see also Knapp, 1979, p. 118). The reason for not using this approach is that length of time to work with the group under study and the need to form strong relationships with the group before drawing the information was simply not available and the data, anyway, would not have been generalisable.

Researchers in the phenomenological-qualitative- mode seek to understand the meaning of events and interactions of factors to ordinary people in specific situations. What phenomenologists stress is the subjective aspect of people's behaviour (Day, 1987, p. 14). They attempt to achieve entry into the conceptual world of their subjects in order to realise how and what meaning they build around events in their daily lives. Phenomenologists believe that for human beings various ways of adapting experiences are accessible to each of us through interacting with others and that it is the meaning of our experiences that constitute reality, consequently reality is socially constructed (Bogdan and Biklen, 1992, pp.33,34). This has the disadvantage of neglecting a broader social context of behaviour (Wiersma, 1986, p. 235). The anthropological roots of qualitative research in education have been persuasively documented (Geertz, 1979, p. 83). Ianni and Orr (1979) argued that participant observation is an important research style in anthropology (as it is for a number of other social sciences), but within that style it is necessary to develop skills in the use of the technique (Ianni and Orr, 1979, p. 91). Such investigations necessarily use observation as their method of data collection (Selltiz, 1974, p. 202).

The most difficult element for the anthropologist is that the anthropologist comes as a stranger to the group he studies, he is not an expert but a naive, unsophisticated

outsider, like a child he must first learn the language and the social graces that will enable him to maintain communications with the individuals he is observing. That creates a lot of pain and also alot of difficulty to the researcher to build a relationship with the group that he studies (ibid, p. 34). The researcher did not use anthropological research because the time available to the researcher was insufficient for this approach, nor would it permit generalisations to be made.

From the different styles of research the researcher selected the survey style as the principle means of data collection, using some correlational research. The reason for adopting this method was because the researcher wished to collect data by using closed and open-ended questions, because:

- The VTE staff and students sample were too large to be interviewed.
- It was easier to the researcher to administrate the questionnaires in one specific place (e.g., classroom or school library).
- It saved time.
- The researcher wished to make generalisations, to generate frequencies, distributions and correlations, in short to use quantitative methods. Through this approach the researcher could gather data from a large sample of people by asking many closed questions in order to be able to generalise, to examine statistical significance, to calculate correlations, and to test hypotheses.

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. Gay (1991) 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 variables (p. 219).

Morrison (1993) said that through survey research the researcher can gather a large amount of data which will help to make a generalization (p. 55); that was one purpose of the research. The researcher also used historical research in the review of literature of a number of industrial countries and developing Arab and non-Arab countries to give the reader some historical background about the status of vocational and technical education in those countries (eg. United Kingdom, Germany, Japan, United States, Saudi Arabia, Kuwait, Egypt and Brazil).

4.4 Insider and outsider research

Insider research is open-ended and detailed. For the researcher to understand situations he must penetrate their boundaries and look out from the inside (Anderson, 1990, p. 152). Woods (1986) said that to achieve this the researcher has to stay in the situation for some time to break down the boundaries, to be accepted, and to learn the culture sufficiently . Teachers themselves could be considered insider researchers. They have better access to people within the school than outsiders would have, which makes it easier for them to draw information as needed. This gives teachers more scope than any other researcher for understanding the issues. This degree of personal involvement is one of the major advantages of insider research. The disadvantage is that acceptance in the culture does not mean permanent membership and the researcher may be unable to preserve a necessary degree of objectivity. The researcher considered it an inappropriate tool for the present research questions because the information obtained would give a very close and very detailed description of what is happening in a small situation with small groups.

Outsider research is where the researcher goes to the specific situation with instruments such as questionnaires and interview questions to draw information from respondents. This has the advantages of objectivity, neutrality and speed - the data collection can be rapid, without upsetting routines too greatly. Of course an outsider may not see the fine detail of situations, however in this situation this was not deemed to be a problem as the researcher was looking for generalities and not the fine detail.

Drawing information from groups of people in interview is not always easy, for the subjects under study can refuse to participate due to fear of new situations or people. The researcher needs information from the subjects, and this will not be acquired unless he studies his subjects closely in order to be aware of the meanings implicit in specific situations. Subjects in interview may feel a little nervous, and resist participation, or speak aggressively. Argyris (1969) mentioned some general factors that can that operate to make the subjects feel anxious about being "researched upon":

> 1. Interviews are new psychological situations. As such they tend to place a subject in a situation where the purposes are unclear or unknown. Clearly, such situations tend to produce tension, anxiety, and conflict within individuals.

2. Some subjects know what an interview is like but dislike such a situation because it represents to them an authoritarian relationship where they are submitting to researcher. This also arouses defences.

3. Still other subjects are closely attached to and identified with their leader or their work group. They view a research interview as an attempt to make them talk about their very personal relationships with their leader or group, and therefore resist.

4. Research people introduced as being some how connected with a university often tend to be perceived as highly educated and rather sophisticated individuals. This connection with the "sacred halls of learning" tends to place some employees (especially for those with no college education) in a situation which calls for defence of their self (p. 116).

Hence outsider researchers using interviews can be problematic. Not only that, they are time consuming and may not generate generalisable data. For these reasons the researcher chose a questionnaire approach, being quick and easy to administer. Recognising, of course, that some respondents would still feel apprehensive at the presence of an outsider (the Hawthorne effect) the researcher took several steps to reassure respondents, providing them with information about the project and guaranteeing anonymity. The researcher was an outsider who wished to gather data from a large sample of people quickly and from several institutions and thus make generalisations, and also to be able to use statistical significance, correlations and frequencies with generalised rather than highly specific data. Many people were asked many closed-ended questions. All of these reasons contributed to the choice of a survey method by questionnaire.

4.5 Parametric and Non-Parametric Data

The first step in deriving an appropriate survey instrument is to decide whether parametric or non-parametric data are required. Parametric data make assumptions about populations. One of the assumptions might be that the characteristics in the population are normally distributed about the mean. The other assumption is that the variance of the population when we compare groups in the study is almost equal. Non-parametric data should be used when there are great deviations from these assumptions or where the truth of the assumptions is not known. Parametric data use interval and ratio scales, whereas non-parametric data use nominal and ordinal scales (Borg and Gall, 1983, p. 558). Parametric statistics have several claimed advantages:

First, because of their greater power. Greater power means that it is more expected to reject a null hypothesis that is false (Gay, 1991, p. 435).

> Second, the variable measured is normally distributed in the population (or at least that the form of the distribution is known) because most variables studied in education are normally distributed, this assumption is usually met (ibid, p. 435).
>
> Third the data represent an interval or a ratio scale of measurement. Since most measures used in education represent interval data this assumption is usually met (ibid, p. 435).

Non-parametric data, on the other hand, also have a number of advantages that make them suitable in the behavioural sciences. Non-parametric data make no assumptions about the population distribution and they are easy to compute (Borg and Gall, 1983, p. 559). A non-parametric statistical test is one which does not need an interval level of measurement. There are a number of assumptions associated with most non-parametric data but they are weaker and fewer than those associated with parametric data (Nachmias and Nachmias, 1981, p. 457). Non-parametric statistics are used if the assumptions of the applicable parametric statistic cannot be met.

There are four levels of measurement in parametric and non-parametric data.

1. Nominal scale level (non-parametric);
2. Ordinal scale level (non-parametric);
3. Interval scale level (parametric);
4. Ratio scale level (parametric).

1. Nominal Scale:

> The nominal scale is the most elementary scale of measurement. It does no more than identify the categories into which individuals, objects or events may be classified (Cohen and Manion, 1989, p. 157).

Whatever the basis for classification, a person can only be in one category, and members of a given category have a common set of characteristics (Gay, 1981, p. 279).

2. Ordinal scale: This is used to indicate rank order, that is to say it arranges individuals or objects in a series ranking from the highest to the lowest according to the particular characteristic being measured. Ordinal numbers assigned to such a series do not indicate absolute quantities nor can one assume that the intervals between the numbers are equal. For example:

> in a class of children rated by a teacher on the degree of their co-operativeness and ranged from highest to lowest according to the attribute, it cannot be assumed that the difference in the degree of co-operativeness between subjects ranked one and two is the same as that obtaining between subjects nine and ten; nor can it be taken that subject one possesses ten times the quantity of co-operativeness of subject ten (Cohen and Manion, 1989, p. 156).

3. Interval Scale: Educational research which uses this kind of data or measurement can be exemplified by achievement tests, aptitude tests and intelligence tests. Interval data can use all the statistics from a nominal and an ordinal scale, but, in addition, are based upon predetermined equal intervals.

4. Ratio Scale: This is the highest level of measurement and can use all the statistics from the other kinds of scale; additionally it assumes a meaningful, true zero point. Height, weight and time are examples of ratio scales (Gay, 1981, p. 279).

The researcher gathered largely nominal and ordinal data and also used a limited amount of interval data. Due to the nature of the variables upon which data were sought, the level of measurements of most of them were largely nominal and ordinal. Although some of the latter variables could have been better collected in the form of interval data experiences showed (Cohen and Manion, 1989) that the response rate for such attempts is usually lower, especially if it deals with personal information like family income, ets. Nevertheless, some variables such as age of students, number of students in the respective institutions have been gathered at the interval level.

4.6 Instrument Development and Research Questions

Chapter one outlined problems of vocational and technical education programmes in Qatar, and suggested as the main reasons for these:

1. The standard of attainment of the graduates was not as high as expected by the government authority.
2. The number of Qatari youth enrolling was disappointingly low.
3. There was a high rate of student dropout.
4. The social attitude towards the technical and vocational institutions was disadvantageous; the education they provided was considered second-grade.

It is necessary to identify and understand the variables associated with the problems. There are a number of variables which could be associated with the problems (e.g. VTE Students, VTE Staff, Male, Female, Family Income, Previous

experience) (i.e., variables derived from analysis of literature and from an analyis of factors in Qatar). Data on these variables could generate knowledge useful in solving those problems. The main tools of survey methods are questionnaires and structured interviews because the researcher can gather a large amount of data from a large sample of people.

In generating the questionnaire items the preliminary investigation involved the following:

(1) An examination of VTE institutions' annual reports, documents and statistical records, which were available in the Ministry of Education and other Ministries to see if there were any previous studies on developing VTE in Qatar.

(2) Available literature was carefully reviewed and analysed to guide the questionnaire and study with information and data.

(3) Visiting all vocational and technical institutions and discussing the purposes of VTE in Qatar with headmasters, teachers and students from different institutions.

(4) Attending a job training period for trainees from different factories, banks and hospitals.

By the above means, the researcher started to define essential foci and purposes and instruments that would be suitable for the study and that would demonstrate strong construct validity.

The literature review in chapter three indicated several issues for investigation in the state of Qatar. These are all addressed in the contents of the questionnaires, in addition to further research questions. The issues for investigation exposed in chapter three reflect the 4 research questions and the 9 research issues (see table 4.1.) outlined in chapter one.

Table 4:1: The main issues derived from chapter three and the questionnaire items which covered those issues.

No.	Main issues	Student questionnaire	Staff questionnaire
1.	The economic developments require a strong education system to provide young workers with skills, knowledge and attitudes needed for employment.	Q9:V13, Q9:V14.	Q2:V2, Q2:V7, Q23:V3.
2.	There is no one single authority in all industrial countries that controls VTE activity like Brazil and Saudi Arabia, but the responsibility of providing VTE employment and training is scattered amongst many organisations and state agencies.		Q3:V2
3.	National policies for education appear to be based on the assumption that there will be continued economic expansion and growth.	Q9:V4, Q9:V24.	Q2:V1, Q2:V3, Q10:V3, V4, V6, Q22:V1, V2, Q23:V1, V2, V3, V4.
4.	Manpower planners and educational planners in industrial countries and also in Brazil forecast and survey the functioning of labour markets and follow up students and graduates.		Q3:V4, V6, V8, V10, Q24:V1, V2, V3, V4, V5, V6, V7.
5.	Education should provide an opportunity for young people to advance both academically and occupationally and obtain recognised certification.	Q3:V3, Q5:V5, V11, Q9:V26.	Q3:V3, V4, V5, V6, V9.
6.	Work experience should be linked to academic learning and genuine opportunities for work place learning with training wages paid by employment.		Q3:V1, V6, Q4:V1, V2, V3, Q11:V8, V9, Q23:V1, V2, V3, V4, Q24:V1, V2, V3, V4, V5, V6, V7, Q25:V1, V2, V3, V4, V5.

7.	Young adults in the Arab world should be relocated to join VTE institutions.	Q9V15, V16, V17, V20, V21, V22, V25, V26.	Q7:V1, V2, V3, V4, V5, Q17V1, V2, V3, V4, V5, V6.
8.	There is an absence of appropriate VTE institutions in the Arab World.	Q9:V1, V2, V3, V4, V5, V6, V7, V8, V9, V10, V11, V12.	Q9:V1, V2, V3, V4, V5, V6, Q11:V1, V2, V3, V4.
9.	There is a need for skilled people in technical and administration.	Q9:V14, V17, V18, V19, V23, V24, V25.	Q10:V1, V2, V3, V4, V5, V6, V7, V8.
10.	Links between general education and vocational education do not exist in most Arab countries.		Q2:V1, V4, Q3:V5, V8,
11.	VTE institutions and employment should work together not separately.		Q3:V1, V6, Q11:V3, V4, V9, Q23:V1, V2, V3, V4, Q24:V1, V2, V3, V4, V5, V6, V7.
12.	Counselling in VTE schools and employment should exist to direct students to the most appropriate specialisation.	Q2:V3, V4, Q6:V9, Q9:V5, V6.	Q17:V2, Q22:V1, V2, V3, V4.
13.	VTE programmes should meet the soci-economic development needs.	Q9:V13, V14.	Q2:V7, Q3:V1, V6, Q10:V3, V4.
14	Short and long-term development planning is very important for national economic development.		Q3:V6, Q25:V1, V2, V3, V4, V5.
15.	VTE certificates should be recognised in order to help students to continue higher education.	Q9:V26.	
16.	Labour markets in the Arab world cannot be developed without dependence on foreign skilled workers.	Q7, Q8.	Q21:V1, V2, V3, V4, V5,

17.	VTE is looked down on compared with general academic education.	Q9:V15, V16, V17, V25.	Q2:V1, V5, V6, Q7:V1, V2, V3, V4, Q17:V1, V2, V3, V4, V5, V6, Q19:V1, V2, V3, V4, V5, V6, V7.
18.	One of the reasons for the limited enrolment in VTE is the poor quality of teachers and administrators.	Q9:V11, V12.	Q4:V1, V2, V3, V4, V5, V6, V7, Q5:V1, V2, V3, V4, V5, V6, V7, V8, V11.
19.	One of the reasons behind low enrolment in VTE is the lack of career guidance.	Q2:V3, V4, Q9:V5.	Q17:V2.
20.	More than one area for VTE specialisation is needed to afford girls the opportunity to enrol in this kind of education in Egypt.	Q10:V1, V2, V3, V4, V5, V6, V7, V8, V9, V10, V11, V12.	Q26:V1, V2, V3, V4, V5, V6, V7, V8, V9, V10, V11, V12.
21.	The most serious problem facing Arab countries is the absence of appropriate institutions for VTE .	Q9:V7, V8, V9, V10, V11, V12, V20.	Q9:V1, V2, V3, V4, V5, V6.
22.	VTE in Arab countries suffers from high drop-out.		Q19:V1, V2, V3, V4, V5, V6, V7.
23.	The media have no great role in attracting the youth to VTE.	Q1:V1, V1, V2, V3, V4, V5.	Q18:V1, V2, V3, V4, V5, V6.
Note: Q = Question V = Variable			

This item analysis provides evidence of strong construct validity in the questionnaire, the constructs being rooted in a literature review.

The researcher conducted two questionnaires in VTE institutions during the period from September to December 1992. Two research questionnaires were formulated and developed to serve the present study. A questionnaire was chosen as the most applicable instrument to collect the necessary data to answer the questions raised in this study, the reason for this being that the size of population needed was large in order to make generalizations. By means of a questionnaire the researcher could collect data from a large group of respondents in one place, which is difficult to implement through observation or interviews at the same time, as Ary clarified:

> The direct one-on-one contact with subjects involved in the interview process is time consuming and expensive. Often much of the same information can be obtained by means of a questionnaire. Because a questionnaire is designed for self administration and is often mailed it is possible to include a larger number of subjects as well as subjects in more diverse locations than is practical with the interview (1990, p. 421).

In designing the questionnaires the researcher selected a format which would not be difficult for students and staff of VTE to answer. It would also enable them to declare their views freely and this is very important in order to guarantee that the data which will be derived are honest, reliable and valid. One questionnaire was developed for use with all staff of VTE, teachers, trainers and administrators, enabling generalisations and stratification to be undertaken. The contents of items making up the questionnaire were drawn from various sources, including literature, the researcher's own professional experience as a career counsellor for 11 years in Q.G.P.C.T.C., analysis of documentation mentioned above, discussions with headteachers, teachers, students, attendance at job training and an understanding of the cultural aspects of Qatar. Moreover the researcher is a Qatari national, part of Qatari society, speaks the same language and shares cultural norms, facilitating communication.

The questionnaires were designed to gather data for the main objectives of the whole research:

1. To examine the national manpower situation in the VTE institutes in the state of Qatar;
2. To survey all the VTE institutions in the state of Qatar;
3. To assess the effectiveness of the institutions of VTE in the light of the following factors:
    - The standards of attainment of the students;
    - The dropout rate and the reasons for this;
    - Recruitment rates by nationality;
    - An evaluation of the programmes and concepts of training and the methods used for training and teaching in the above institutions; their usefulness in achieving the prescribed objectives; the extent of their suitability to technological change;

- To study the effectiveness in providing on the job training (OJT) in the different sectors;
- Attitudes to VTE;
- Assessment of the in-house and overseas training courses;
- To study the effectiveness of the methods used to attract local students to join VTE;
- The place of women in VTE in Qatar;
- The motivation of Qatari students to join VTE institutions.

After the researcher had translated the questionnaire from English into Arabic it was submitted to an Arabic language teacher to review and anticipate any problems in ensuring that the level of language for students to use was appropriate and in order to avoid any ambiguity or grammatical errors. This was done in order to achieve the objectives of the questionnaire and to be appropriate to the respondents as explained below.

After checking with the Arabic language teacher, the researcher had to make minor modifications in the wording and format of some questions. Then the researcher typed the questionnaires and submitted them to seven experts in the field of education who were well experienced in using questionnaires in order to check the validity of the questions and to make certain that their meaning was clear and relevant to the students and staff of VTE, and to invite any other comments about the instruments, i.e. to demonstrate 'jury validity'. Copies of the questionnaire were also submitted to two well-known experts in the field of VTE in Qatar (see Tables 4:2 and 4:3).

Table 4:2: The jury validity test experts

Name	Academic position	Place of Work
Professor Jabber Abdulhameed	Vice Chancellor	University of Qatar
Dr Abdul Rahman Ibrahim	Secretary General	University of Qatar
Dr Abdul Aziz Kamal	Head of Education Research Centre	University of Qatar
Dr Darweesh Emady	Deputy Dean, Faculty of Humanities	University of Qatar
Dr Ibrahim Almelejy	Head of Computer Centre	University of Qatar
Dr Mohammed Qotbah	Lecturer	University of Qatar
Dr Nedam Jafar	Lecturer	University of Qatar

Table 4:3 The VTE Experts

Mr Sabah Al-Kawari	Head of Regional Training Centre	Ministry of Education
Mr Abdul Gadir Abu-Nabah	Head of Q.G.P.C.T.C.	Qatar General Petroleum Corporation

4.6.1 Students' questionnaires

The students' questionnaires were accompanied by a covering page, which presented information about the researcher and an introduction to the research, explaining its objectives and pointing out the significance of the students' view for the researcher. The researcher also confirmed that their answers would be used for nothing else but the research purposes. The questionnaire was divided into two sections :

A. Basic information about the respondents, e.g. age, sex, nationality and general information, which, the researcher believed, would help the study, e.g. father's qualification, family income, institutes of study (i.e., nominal data).

B. The main items

The students' questionnaires contained eight questions, every one of which included a number of sub-items (variables) (69), and one open-ended question. All these items investigated students' attitudes towards their VTE institution, VTE and manual work. It asked them if they intended to work in their current specialisation after graduation from the VTE institution and their views about the role of women in the field of VTE (see Appendix C). The eight questions covered:

- Joining VTE (Q2);
- Reasons for choosing specialisation (Q3);
- Success and failure in previous studies (Q4);
- Reasons for joining VTE (Q5);
- Ways of learning in VTE (Q6);
- Interesting for future occupation in area of specialisation (Q7);
- Perception of VTE (Q9);
- The Role of Women in VTE (Q10).

Likert Scales

Students views were collected using Likert scales. Likert scaling was used so that standardisation of items would occur. Likert scales tend to perform very well when it comes to a reliable rough ordering of people with regard to a particular attitude. The advantage of this scale are:

1. Relative ease of construction and speed of respondents' data entry.
2. They provide more precise information about the respondents' degree of agreement or disagreement and respondents usually prefer this to a simple agree/disagree score (i.e. a dichotomous response).
3. It becomes possible to include items whose manifest content is not obviously related to the attitude in question, so that the subtler and deeper ramifications of the attitude can be explored (Oppenheim, 1966, pp. 133,134).

However there are difficulties associated with Likert scales, for example:

1- its lack of reproducibility (in the technical sense): The same total score may be obtained in many different ways. This being so, it has been argued (Oppenheim, 1966) that such a score has little meaning or else that two or more identical scores may have totally different meanings. Often for this reason, the pattern of responses are more interesting than the total score.

2- Another criticism has been that the scale offers no metric or interval measures and it might lack a natural mid point so that one does not know where scores in the middle range change from mildly positive to mildly negative.

In addition to this rating exercise, the researcher used an open-ended question; students were requested to add any comments related to the field of VTE and to indicate their views on how to improve and change society's views of VTE. Because the students had to answer the questionnaires in the classroom or library or school theatre under the administration of the researcher and two staff from the institution, there was a strong likelihood that all the questionnaires would be completed and returned. For female students an assistant was needed to present the questionnaire, so the researcher chose one of the female workers in the Department of Public Relations in the Ministry of Health to administer the questionnaire, after explaining to her the instructions and the purpose of the research, the time limits and how to complete the questionnaires. The same procedure was adopted for female students in the Technological College. The questionnaires, therefore, were self-presented and self-administered except in girls' institutes.

A question can be open or closed. In a closed question there are a number of answers and respondents are asked to select which one is the most appropriate to express their points of view. Closed questions are not difficult to answer and the respondents can finish them quickly. Respondents write from their own perceptions. Resulting data can be analysed by computer. Their major difficulty is that they may present a direction for responses either by forcing them to select from given alternatives or by making the respondents choose alternatives that do not really include what they wish to say (Morrison, 1993, p. 77). In this research the use of Likert scales was seen as a way of combining closed questions with the avoidance of the problem of multiple choice statements. The provision of anchor statements alone was seen as sufficient closure.

Open-ended questions are not followed by any sort of definite choice or alternatives, and the respondents' answers are recorded in full (Oppenheim, 1966, p. 40). The attraction of the open-ended question is that it does not force the respondent to answer from a given range of responses, hence respondents can express their own thoughts and views. If the answers to open-ended questions are unclear the researcher may request the respondents to give more detail or to give a reason for something stated earlier. Open-ended questions are flexible and deep, enabling the researcher to clear up any false impressions and to activate or encourage rapport (in an interview). Open-ended questions are not easy to analyse in large samples because the information which is given by each varies (Nachmias and Nachmias, 1981, p. 213). For this reason the questionnaire only included one open-ended question.

In a dichotomous question the respondent is given two answers from which to choose. The difficulty with this kind of question is that the answers may be forced into a category to which they do not properly belong, and having only two categories may be too unsubtle and undiscriminating (Morrison, 1993, p. 60). Hence this type of question was avoided. Likert scales were seen as more flexible and sensitive.

Before administering the questionnaires it was important to:

1. Contact the headteacher of the school to find a convenient time to administer the research questionnaire.
2. Gather all the students in one place such as a library, classroom, school theatre in order to control the group and explain any ambiguous items, also to save time.

3. Give the students a short talk about the research and the importance of the research for the benefit of human-resource development of the country as a whole and the people of Qatar in particular.

Most questionnaires were completed in one hour and fifteen minutes.

4.6.2 VTE staff questionnaires

Three groups of VTE staff were involved in this study:

1. Administrators, such as headteachers, vice chancellor, academics, and secretary general of school headteachers.
2. Technical trainers, such as those who train mechanical and electrical students for working with instruments in workshops or laboratories.
3. Teachers of academic subjects such as Arabic, Mathematics, Science, English, Sociology.

The staff questionnaires were distributed by hand and the researcher had a long discussion with respondents to explain the objectives and the purpose of the study, the importance of their opinion for the study, the need to fill in all the questionnaire items in their own time, and to return them later via the school's headteacher. The researcher went over the questionnaire thoroughly with respondents so that it could be completed in full.

The questionnaires were 26 pages long and contained 26 questions. Each question consisted of a number of sub-items (variables) which covered a broad range of information about VTE in Qatar. The process of devising the questionnaire items was the same as for the students' questionnaire, and the decision to opt for Likert scales was the same as before.

The questionnaire was divided into three parts:

In the first part, respondents were asked to provide selected background information which described their professional preparation and years of experience, specialisation, academic qualification, nationality (i.e., nominal data) and how well they were acquainted with the programmes offered by VTE institutions.

The second part consisted of 25 questions, each question including a number of sub-items designed to describe VTE in Qatar. This covered all aspects of the VTE institutions and perceptions of the situations in these institutions. The questions covered:

- The place of VTE in the education system of Qatar (Q2);
- Ways of developing and encouraging VTE (Q3);
- Criteria for selecting teachers and trainers for VTE (Q4);
- Criteria for preparing teachers and trainers for VTE (Q5);
- Criteria for sending teachers and trainers of VTE abroad for training (Q6);
- Reasons for the shortage of Qatari teachers of VTE (Q7);
- Salary for teachers of VTE (Q8);
- Reason why the buildings, workshops and laboratories are unable to fulfil their role (Q9);
- Reasons why VTE dose not meet the demands of the job market (Q10);
- How VTE can meet the demands of the job market (Q12);
- Languages to be used in VTE (Q14);
- Ways of describing students of VTE (Q16);
- Reasons why Qatari students avoid VTE (Q17);
- The role of the media and inter-related agencies in promoting VTE (Q18);
- Reasons for student dropout (Q19);
- Reasons why graduates in VTE do not work in their field (Q21);
- The role of women in VTE (Q26).

Staff of VTE were requested to respond to the statements on a 5 point scale denoting their degree of agreement with given statements (see Appendix D). As with the students' questionnaire, assistance was needed to distribute the questionnaires for females.

The third part comprised two open-ended questions designed to elicit further information on how to improve Vocational Education in Qatar.

The advantages and disadvantages of questionnaires are explained by Ary and Razavich (1990): The advantages include:

1. 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.
2. Questionnaires that can guarantee confidentiality and anonymity may elicit more truthful responses than would be obtained with a personal interview.
3. 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.

Disadvantages of the questionnaire (ibid.) are:

1. The possibility of misinterpretation of the questions by the respondents.
2. It is extremely difficult to formulate a series of questions whose meanings are to be crystal-clear to every reader.
3. 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.
4. Large segments of the population may not be able to read and respond to a mailed questionnaire.
5. Only people with considerable education may be able to complete a very complex questionnaire.
6. Poor response rate in postal questionnaires affects reliability.
7. Falsifiability of responses (deliberate or not).
8. Length - if the questionnaire is too long respondents may be discouraged from completing it attentively. It is worth mentioning here that because VTE staff questionnaires were long the researcher overcame this problem through asking the response to fill the questionnaires in their own time without time limit.

4.7 The validity of the questionnaire

It is important to check the validity of the instrument, defined generally as the level to which a measurement measures what it claims to measure (Borg, 1983, p. 275). The instrument or test could be valid for one reason or purpose or one place or position and specific age or subject, but invalid for another (Dalen, 1979, p. 135). Invalid tests can lead to inaccurate research conclusions, which in turn might influence educational decisions (Borg and Gall, 1983, p. 275). The American Psychological Association (1974) has published guidelines for determining test validity which cover:

1. Content Validity.
2. Predictive Validity.
3. Concurrent Validity.
4. Construct Validity.

(1) Content Validity is defined by Borg (1987):

"the degree to which items in a test represent the content that the test is designed to measure. It is important primarily in achievement testing and various tests of skills and proficiency, such as occupational skill tests." (p. 94), i.e. content validity is addressed if the depth and breadth of an issue is covered exhaustively. The most important question here is how successfully the instruments used were measuring what they were intended to measure. As the questionnaire concerned the opinion of the staff and trainees in charge of the field of VTE in Qatar, content validity was addressed by seeking their views on a range of issues. It was also demonstrated by ensuring that the issues raised in the literature were addressed. Content validity of the questionnaire was assessed by expert judgment. The copies of the questionnaire were submitted to seven experts with appropriate expertise (see Table 4:2). The main purpose of using expert judgment was to suggest additional information, comments and amendments. Each member of the panel was asked to review the questionnaire and comment on the following aspects after a clear explanation about the objectives of the study and the population involved had been given:

a. Presentation, wording, sentence structure, relevance of the questions to each other and clarity of the questionnaire.

b. Content: to check the appropriateness of the items to see if they covered what they were supposed to cover.

c. Construction: format, to avoid double-barrelled questions, to avoid long or complicated items, and to check whether the items covered the survey's objectives, and if they were relevant to the particular fields.

d. Comprehensibility for the target sample.

After two weeks, the feedback from expert judges was used to make the necessary minor amendments.

For greater precision in determining validity, an additional procedure was used. Two experts who had much experience in the field of VTE in Qatar were asked to review the questionnaire and comment on the content, comprehensibility, technical aspects and general impression of the questionnaire (see Table 4:3). As a result of the responses from the two VTE experts, minor improvements in the wording and grammatical changes were made to the instrument. The experts (Tables 4.2 and 4.3) agreed that the questionnaire, with very minor modifications to wording, addressed content validity and met the requirements of (a) - (d).

(2) Predictive Validity is defined by Borg (1987) as the level to which the predictions made by measurements or tests are confirmed by later behaviour of the subjects. This was not addressed in the questionnaire or research as it was inappropriate.

(3) Concurrent Validity is defined by Borg and Gall (1983):

> The concurrent validity of a test is determined by relating the test score of a group of subjects to a criterion measure administered at the same time or within a short interval of time (p. 279).

Again, the decision to use one instrument - the questionnaire - would not permit concurrent validity to be demonstrated. However, by having two questionnaires, one for staff and another for students, a degree of concurrent validity was demonstrable in that the two questionnaires focused on the same issues - reinforced in chapter five where correlations between the two questionnaires are calculated. Hence, though the `strong' version of concurrent validity - use of two or more very different instruments - was not demonstrated, the `weaker' form - use of two or more similar instruments - was addressed.

(4) Construct Validity is defined by Gay (1976):

> Construct validity is the degree to which a test measures an intended hypothetical construct. A construct is a non-observable trait, such as intelligence, which explains behaviour, you cannot see the construct, you can only observe its effect (p. 89).

The researcher demonstrated construct validity which derived from the pilot study (4.9), taking into consideration avoiding double-barrelled questions, avoid complicated items, making the questionnaire as easy as possible to be answer to have maximum return. Construct validity of this questionnaire was very high in that it was rooted in literature, agreed by experts in the field, generated from document analysis and visits to those working in the field and personal knowledge and attendance at on-the-job training (4.6). However, as this is a first study, it is not possible to use concepts of validity rigorously.

4.8 Reliability

Reliability is the degree to which an instrument consistently measures whatever it purports to measure. The more reliable an instrument, the greater the confidence in the score obtained from the administration of the instrument. In a reliable instrument the same scores should be obtained were the instrument to be re-administered (Gay, 1976, p. 92). An instrument is reliable when it gives a stable result under similar conditions (Kline, 1986, p. 32). Reliability coefficients can be achieved by various techniques such as:

> test-retest, equivalent forms and split-half reliability. These are determined through correlation and rationale equivalence. A major problem with this type of reliability is the difficulty of knowing how much time should elapse between the two testing sessions (Gay, 1992, p. 118).

The researcher selected test-retest reliability to give the test greater stability by testing a group of people with the same questionnaire more than once. Gay (1976) argued that in "determination of test-retest reliability, it is unlikely that persons taking the test will remember responses made on the first test" (p. 93), hence going back to the same respondents was not seen as a threat to reliability.

Gay also explained the procedure for determining test-retest reliability:

> 1. Administer the test to the sample.
>
> 2. After some time, about one week, administer the same test again to the same individuals, and

3. Correlate the two sets of scores. If the resulting coefficient (referred to as the coefficient of stability) is high the test has a good test-retest reliability (p. 93).

In order to be certain that the questionnaire result was stable, the researcher followed the same procedure as that outlined by Gay, administering the questionnaire twice to the same group of 20 students from VTE institutions. It should be noted that the same procedure was applied for 20 VTE staff and the period of time between the two tests was almost one week. The University of Qatar Computer Centre correlated the two data sets and the resulting coefficient was 0.86, for the staff questionnaire which was considered to be a high correlation with a significance level of $P<0.01$, and a coefficient of 0.74 for the student questionnaire with a significance level $P<0.01$, enabling the researcher to have confidence and trust in the reliability of the questionnaire.

4.9 The Pilot Study

Before the final version of the questionnaire was prepared, a pilot study was undertaken. The first questionnaire (for teachers, trainers and administrators) was piloted, and the second, the student questionnaire, was also piloted. The first questionnaire was given to 20 staff members from 4 institutions with different specialisations (male only), 5 staff members from each institute, two trainers, two teachers and one administrator.

The second questionnaire was given to 20 students who had already graduated from different VTE institutions and different specialisations.

The main objective of the piloting was to check the following points:

1. To check whether the questionnaire items were suitable in terms of appropriacy, clarity, understanding, type (eg rating scales) and to see whether the instructions for the questionnaire were clear enough.
2. To check the time taken to complete the questionnaire.
3. To assess difficulties or ambiguities.
4. To see whether, by looking at the answers, these questions covered what they were supposed to cover.
5. To make any comments about the questionnaires for consideration at a later stage.

In a pilot study the entire study is conducted exactly as for the final studies, and the resulting data are analysed according to the research plan. Ary and Razavich (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 (p. 109).

As a result of the pilot study, some modifications were made in the wording of some items. The piloting showed that little change was needed. After the researcher had received the full information concerning the respondents involved in this study, (e.g. number of students and how staff from each institute will participate, from which education level they will be drawn, when is the convenient time to start the study, the location of the sample that is going to assist the researcher if needed) an official letter was issued to the headteachers of the institutions from the General Secretary of the University of Qatar, and letters of approval were sent by both the Minister and Deputy Minister of Education. Both approvals requested full co-operation from the institutions involved in this survey (see Appendix E).

4.10 The Ethics of Research

There are ethical considerations in every piece of research. The researcher should make every attempt to reduce potential hazards to subjects, e.g. invasions of privacy, misuse of personal details. Subjects should be completely informed about the study, for example what sort of information is going to be gathered from personal files or from particular classrooms or from the interview, and the respondents all have the option to refuse to take part in the study (Morrison, 1993, p. 187). Rieken (1969) suggested that the researcher must inform the participant about:

1- the sort of activities that this role involves;

2- the sort of information that falls with in the legitimate purview of this study;

3- the uses to which this information will be put;

4- the manner in which he would like the subjects to aid him in his pursuits (e.g., to relate specific facts to him rather than vague generalizations and impressions, to guide him to pertinent sources, and to correct him when his assumptions and conclusions seem to be in error) (p. 43).

The subject's right to privacy is also important; they should be aware that researchers are collecting information from them or observing them. Collecting information without their knowledge or without appropriate permission can be unethical because the researchers should treat people as human beings rather than solely as a source of data. Data collected either from or about a subject should be totally confidential and reported anonymously (often in aggregated form so that respondents cannot be traced), especially if it is at all personal, because the subject has the right to privacy and is not required to share it with other people (Gay, 1981, p. 63). Participants in social science research need to be informed that the information gathered from them will be treated confidentially, that is, even though researchers are able to identify a particular participant's information, they would not announce the details publicly (Nachmias and Nachmias, 1981, p. 493). The researcher addressed the ethics of the research in his study as follows:

1. The researcher did not ask the subjects any sensitive questions.
2. The subjects were informed completely about the purpose of the study.
3. The information to be gathered was to be treated confidentially and used only for the purpose of the study, respondents were not required to put their names on the questionnaires and the data were aggregated, i.e. individuals would not be able to be traced.
4. The researcher received permission to apply his questionnaires.
5. Appointments were made with the school principals to discuss the research and its time limits.
6. Respondents were given the opportunity not to be involved in the research.

4.11 Sequence of the data collection:

The researcher travelled to Qatar during the period from July to December 1992. A preliminary investigation of all VTE institutions was made in order to identify the general opinion and problems experienced by staff and students who were involved in VTE institutions, and also to build a relationship with them so as to avoid being a stranger visiting them for the first time and asking questions which might be very difficult or uncomfortable to give to unknown persons. During the first two months the researcher also examined further the available literature in general, vocational and technical education in Qatar. The reasons for the researcher's visit were to investigate if there were any previous studies that had been done in the area of VTE in Qatar or in the Gulf Countries in order to give comprehensiveness and exhaustiveness to the study. Several Ministries and Government Department offices and Agencies of the UN and the Gulf Co-operation Council Office were contacted:

- Higher Secondary Industrial School.
- Higher Secondary Commerce School.
- Regional Training and Development Centre.
- Training Centre affiliated to the Q.G.P.C.
- Health Centre attached to the Ministry of Health.
- Technical Education Project at the University of Qatar.
- UNDO Office.
- UNESCO.
- Ministry Of Education (Employment's Section).
- Telecommunications Training Centre.
- Civil Aviation College.
- Ministry of Information.
- Statistical Department (Ministry Of Finance).

During visits to all of the above places, there were several useful meetings with important officials, especially those concerned with training (cf Appendix F). The researcher also collected literature about VTE programmes and the labour force in Qatar, including statistical reports about VTE students' dropout. After a general visit

to all the above places, the researcher made another visit specifically to VTE Institutions for the following reasons:

(1) To look into VTE institutions' annual reports, documents and statistical records, which were available in the Ministry of Education and other Ministries, to see if there were any previous studies on developing VTE in Qatar.

(2) The three-fold investigation of the available literature was also carefully revised and analysed to facilitate the study.

(3) Visiting all vocational and technical institutions and discussing the purposes of VTE in Qatar with headmasters, teachers and students from different institutions.

(4) Attending a job training period for trainees from different factories, banks and hospitals.

In the following two months from September to October the questionnaires were translated and reviewed by University of Qatar staff and the Ministry of Education. These were piloted and typed. During that time sampling procedures were conducted; the researcher made a visit to all VTE staff in their offices and explained the objective of the study and the importance of their answers and comments to the researcher and also to fix an appropriate time that would not conflict with their teaching schedule.

Chapter Five

Data Analysis

5.1. Introduction:

The main objective of this section of the study is to analyse the data concerning issues in vocational and technical education (VTE) programmes in the State of Qatar. The current chapter will analyse the data which were achieved from the results of the VTE student and staff questionnaire. It is necessary to mention here that because the researcher administered the questionnaire himself the response rate was one hundred per cent. The data from the questionnaire provided further details of the samples (Tables 5.1-5.3)

Table 5.1: Distribution of students with regard to gender, age and nationality:

Variables	Value	Frequency	Percentage
Gender	Boys Girls	170 54	75.9 24.1
Age	Age 16 Age 17 Age 18 Age 19 Age 20+	7 20 28 35 124	3.1 8.9 12.5 20.1 55.4
Nationality	Qatari G.C.C.	218 6	97.3 2.7

Table (5.1) indicates the distribution of the student sample in the six VTE institutions, indicating an uneven distribution of the sample. One can observe the high representation of males, the high representation of students of 19 and 20+ years, and the high representation of Qatari nationals in the sample, because most students are Qatari national.

Table 5.2: Distribution of students in different VTE institutions:

Variables	Value	Frequency	Percentage
Institution	Industrial Secondary School	44	19.6
	Regional Training Centre	25	11.2
	Commercial Training Centre	42	18.8
	QGPC Training Centre	29	12.9
	Nursing Institution	26	11.6
	Technology College	58	25.9
Total	6	224	100

One can observe the highest representation of students in technology colleges, commercial secondary schools and industrial secondary schools and a lower representation of students in the other 3 institutions. This is because the student numbers are not high.

The total number of VTE staff used in this study were 121, which consists of seven VTE schools in the State of Qatar. Of the sample 100 of the participants were male, the majority in this study, compared to 21 female VTE staff. The reason for this is that there is only one VTE school in which women can be involved, which is the Nursing Institution.

5.2 Statistical Procedures:

The researcher used the Statistical Package for the Social Sciences to process the data. The researcher chose statistical tests which were appropriate for non-parametric data, i.e. data which derived from nominal and ordinal variables. Siegel (1956) argues:

> "If data are inherently in ranks, or even if they can only be categorised as plus or minus, they can be treated by non-parametric methods, whereas they can not be treated by parametric methods unless precarious and perhaps unrealistic assumptions are made about the underlying distributions." (p. 33).

The researcher used the chi-square statistic for cross-tabulated data (typically nominal data cross-tabulated with ordinal data). The researcher chose the Mann-Whitney U Test of Significance to complement the chi-square statistics, to measure statistical

significance of the distribution of data for two variables (Borg and Gull, 1983, p. 561). Furthermore, the Kruskal-Wallis Test, was used to complement the chi-square statistic and was used to ascertain any significant relationship between three or more variables. As Siegel (1956) 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 whish to avoid the t test's assumptions" (p. 117).

The researcher also used frequencies and percentages in analysing the data. The non-parametric Spearman Correlation Coefficient was also used to identify the degree of association between ordinal variables (Tuckman, 1978, p. 256).

The significance level of $P \leq 0.05$ will be reported, where appropriate, as will $P<0.05$, $P<0.01$, $P<0.001$, $P<0.0001$ for statistical significance, and $P>0.05$ for no statistical significance. In the current study, the significance level in $P \leq 0.05$ is taken as a level suitable for rejection of the null hypothesis.

The sequence of this chapter will be:

Stage 1: reporting frequencies, crosstabulations and correlations for student data, table by table and by patterns of response.

Stage 2: reporting frequencies, crosstabulations and correlations for staff data, table by table and by patterns of response.

Stage 3: reporting correlations between students and staff on individual items and across different responses.

In an attempt to facilitate data analysis, the 13 family income categories on the students' questionnaire were collapsed and recoded to three categories:

(a) Low family income (which included respondents from choices 1, 2, 3, 4).

(b) Medium family income (which included respondents from choices 5, 6, 7, 8, 9).

(c) High family income (which included respondents from choices 10, 11, 12, 13).

This could enable crosstabulations to be administered to avoid the problem of low frequencies (ie less than 5) into more than 20% of the cells.

In addition, the six VTE institutions were put into three categories for the same purpose:

(a) Inst (1)

(1) Industrial Secondary School

(2) Regional Training Centre

(b) Inst (2)

(3) Commercial Secondary School

(4) Q.G.P.C. Training Centre

(c) Inst (3)

(5) Nursing Institution

(6) Technology College

The categorization of institutions was based on the similarity of specializations and subjects that every institution teaches, and on the similarity of the level of diploma certificate that each institution gives, except for the Technology College.

Crosstabulations had been administered on all of the nominal data before recoding; when analysis of the students' questionnaire took place there was an immediate problem that more than 20% of the cells had a frequency of 5 or less. Recoding was undertaken in an attempt to eliminate this problem. The same situation happened when addressing the VTE staff questionnaire data. The researcher combined adjusted categories so that the chi-square test could be applied (Siegel,1956, p. 178). The variables of Nationality and Institution in the VTE staff questionnaire were also collapsed and recoded thus:

1- Nationality

A- Nat (1):1- Qatari, 3- Palestinian, 4- Egyptian, 6- Jordanian.

B- Nat (2): 2- Gulf Co-operation Council (GCC), 5- Sudanese, 7- Syrian, 8- Tunisian, 9- Lebanese.

2- Institutions

A- INST(1): Industrial School and Regional Training Centre

B- INST(2): Commercial School and Qatar General Petroleum Co-operation (Training Center)

C- INST(3): Nursing Institutions and Health Inspection Institutions

D- INST(4): Technology College

The two categorizations of nationality were based upon the number of staff in every institution in order to have almost equal number in each category.

Key for the questionnaire and table titles:

Q Question

V Variable

These terms will be used through the chapter as a shorthand in every question.

Table 5.3: Distribution of students and their source of knowledge about VTE:

Variables	Value	Frequency	Percentage
Knowledge about VTE	Media	53	23.7
	School counsellor	19	8.5
	Friends	120	53.6
	Parents	32	14.2
Total		224	100.00

One can observe in Table 5.3 the very high reported source of knowledge about VTE deriving from the informal network of friends (twice as high as the next source - media), and the low incidence of knowledge deriving from parents and school counsellors.

Table 5.4: Distribution of students' fathers qualifications:

Variables	Value	Frequency	Percentage
Father Qualifications	Illiterate	85	38.0
	Read and Write	64	28.6
	Preparatory	18	8.0
	Elementary	20	8.9
	Secondary	18	8.0
	Diploma	12	5.4
	BA	5	2.2
	MA, Ph.D.	2	0.9
Total		224	100.00

One can observe in table 5.4 the high incidence of fathers who were either illiterate or who could only read and write and the very low incidence of fathers with any higher or further education.

Table 5.5: Distribution of students by family income:

Variables	Value Ryal	Frequency	Percentage
Low income	2000-5999	111	49.6
Medium income	6000-10999	75	33.4
High income	11000-14000+	38	17.0
Total		224	100.00

The categorization of family income in table 5.5 derives from the government's report No (2) issued by the Ministry of Finance (Statistical Department) for the year 1988. This table shows a very high percentage of students with low family income (49.6%) with medium income being (33.4%) and high income scoring the lowest percentage (17.0%).

Table 5.6: Distribution of students by family income:

Variables	Value (Ryal)	Frequency	Percentage
Low Income			
1	2000-2999	14	6.1
2	3000-3999	29	12.9
3	4000-4999	34	15.2
5	5000-5999	34	15.2
5	6000-6999	32	14.3
Medium Income			
6	7000-7999	12	5.4
7	8000-8999	12	5.4
8	9000-9999	6	2.7
9	10000-10999	13	5.8
High Income			
10	11000-12999	2	0.9
11	13000-13999	8	3.6
12	14000-14999	21	9.4
13	14000 and over	7	3.1
Total		224	100.00

When this categorization is applied to the respondents in the student population (table 5.6) one can observe the skewing of reported income, such that a majority of families are in the lower income bracket (63.9%), with the other two zones' income more evenly distributed (19.3%) in the middle income bracket and (26%) in the higher income bracket. This indicates a disparity between the local and national distributions of income.

Table 5.7: Distribution of students and specialisation:

Variables	Value	Frequency	Percentage
Specialisation	Computing	9	4.01
	Accounting	14	6.3
	Office management	11	4.9
	Chemistry	13	5.8
	Civil Engineering (structure)	1	0.5
	Civil Engineering (Road and preparation)	3	1.3
	Civil Engineering (Area)	2	0.9
	Commerce	42	18.8
	Nursing	26	11.6
	Mechanical	20	8.9
	Electrician	16	7.1
	Instrumental	11	5.0
	Production Operator	6	2.7
	Welder	29	13.0
	Decoration and wood working	6	2.7
	Leather work	1	0.4
	Radio and TV	5	2.2
	Condition and Cooling	8	3.6
	Manual machinery preparation	1	0.4
Total		224	100.00

One can observe that the modal score in table 5.7 is that of specialisation in commerce, a fairly even distribution of specialisation in the remaining areas apart from civil engineering, production operations, leather workers, radio and TV, and manual machinery specialisation.

5.3 The Student Questionnaire

Introduction:

Table 5.8: Q2: Joining VTE, V1: To what extent did you discuss the matter of joining VTE with your father? Crosstabulation, frequencies and percentage counts by gender.

Variable	Not at all	Very little	A little	A lot	Very great deal	Row Total
Male	41	30	39	41	19	170
% of total	24.1	17.6	22.9	24.1	11.2	75.9
Female	21	6	11	9	7	54
% of total	38.9	11.1	20.4	16.7	13.0	24.1
Column Total	62 27.7	36 16.1	50 22.3	50 22.3	26 11.6	224 100.0

Table 5.8 shows that 27.7% of the total population did not discuss at all with their fathers the matter of joining VTE. Those who discussed it very little or a little were 38.4% and those who discussed it a lot or a very great deal were 43.9%. When we combine the 'very little', 'a little', a lot and 'very great deal' who discussed the matter of joining VTE with their fathers they form a majority of 82.3% compared to those who did not discuss at all. i.e. generally some discussion took place. Another point shown by the table is that 38.9% of the female students did not discuss joining VTE at all with their fathers, which is more than the male students (24.1%). Those who discussed from 'very little' to 'a very great deal' were 75.8% male students and 61.2% female students. Generally, then, there was more male than female discussion with fathers.

Table 5.9: Q2: Joining VTE, V1. To what extent did you discuss the matter of joining VTE with your father? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4060.0	0.1902

The Mann-Whitney U Test (table 5.9) reveals that no significant difference (P>0.05) existed between male and female students' responses. Hence even though table 5.8 indicated a numerical difference between males and females this was not statistically significant.

Table 5.10: Q2: Joining VTE, V2: To what extent did your father resent your joining VTE? Crosstabulation, frequencies and percentage counts by gender.

Variable	Not at all	Very little	A little	A lot	Very great deal	Row Total
Male	130	16	12	6	6	17.0
% of total	76.5	9.4	7.0	3.5	3.5	75.9
Female	40	2	7	4	1	54
% of total	74.0	3.7	13.0	7.4	1.9	24.1
Column Total	170 75.9	18 8.0	19 8.5	10 4.5	7 3.1	224 100.0

Table 5.10 shows that 75.9% of the fathers did not resent their child(ren) joining VTE. Only 8.0% of the responses indicated very little resentment and those who resented it a little were 8.5%. On the other hand, those who resented it a lot or a very great deal were 7.6%. This reveals that there was very little or no resentment from the fathers of both male and female students. Another point shown by the table is that 76.5% of male

students indicated no resentment, which is higher than for female students (74.0%). When we combine the 'very little', 'a little', 'a lot' and 'a very great deal' of resentment, the percentage is still lower than those who did not resent it at all (24.1% and 75.9%).

Table 5.11: Q2: Joining VTE, V2: To what extent did your father resent your joining VTE? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4429.0	0.6046

The Mann-Whitney U Test reveals in table 5.11 that the difference between male and female students' responses to the statement is not statistically different (P>0.05), i.e. there is a commonly shared perception about the lack of fathers' resentment.

Table 5.12: Q2: Joining VTE, V3: To what extent did you have counselling at your previous school? Crosstabulation, frequencies and percentage counts by gender.

Variable	Not at all	Very little	A little	A lot	Very great deal	Row Total
Male	72	30	34	23	11	17.0
% of total	42.2	17.6	20.0	13.5	6.5	75.9
Female	35	5	7	6	1	54
% of total	64.8	9.3	13.0	11.1	1.9	24.1
Column Total	107 47.8	35 15.6	41 18.3	29 12.9	12 5.4	224 100.0

Table 5.12 shows that 47.8% had no counselling in their previous school while 18.3% had a lot or a very great deal of counselling. Those who said very little or a little were 33.9%. If we combine 'very little', 'a little', 'a little', 'a lot' and 'a great deal' the

percentage is 52.2%, which is higher than those who said not at all, i.e. counselling had been given in some measure even though the bulk of this was limited. More can be revealed from the same table, the response 'not at all' was greater among female students than male students (64.8% and 42.2%). The responses 'a very great deal' and 'a great deal' were higher in the male students than female students (57.6% and 53.3%).

Table 5.13: Q2: Joining VTE, V3: To what extent did you have counselling at your previous school? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	3577.5	0.0092

The Mann-Whitney U Test in table 5.13 reveals that there is a statistically significant difference between the responses of male and female students ($P<0.01$). This is an important difference and will be discussed later. One can see from table 5.12 that agreement is only in the 'a lot' category.

Table 5.14: Q2: Joining VTE, V4: To what extent did you discuss the matter of your wish to join VTE with the counsellor in your previous school? Crosstabulation, frequencies and percentage counts by gender.

Variable	Not at all	Very little	A little	A lot	Very great deal	Row Total
Male	72	14	22	34	23	17.0
% of total	42.4	11.2	12.9	20.0	13.5	75.9
Female	39	6	5	4		54
% of total	72.2	11.1	9.3	7.4		24.1
Column Total	111 49.6	25 11.32	27 12.1	38 17.0	23 10.3	224 100.0

Table 5.14 shows that 49.0% did not discuss at all the matter of their wish to join VTE with the counsellor in their previous school, while 27.3% discussed it 'a lot' or a 'very great deal'. Those who said 'very little' or 'a little' were 23.3%. If we combine 'very little', 'a little', 'a lot' and 'very great deal' to indicate whether counselling had been received 'at all' the percentage is 50.6%, which is slightly higher than those who said 'not at all'. More information can be discovered from the crosstabulation; those who responded 'not at all' were higher among female students than male students (83.3% and 53.6%). Those who responded 'very little' to 'very great deal' from male students were higher than female students (57.6% and 27.8%).

Table (5.15) Q2: Joining VTE, V4: To what extent did you discuss the matter of your wish to join VTE with your counsellor in your previous school? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	2923.0	0.000

The Mann-Whitney U Test (table 5.15) reveals that there is a highly statistical significant difference between the responses of male and female students ($P<0.01$). This confirms the gender difference noted in this issue in the previous table, agreement is only in the 'very little' category (table 5.14)

Table 5.16: Q2: Joining VTE, V5: To what extent did you really want to join VTE? Crosstabulation, frequencies and percentage counts by gender.

Variable	Not at all	Very little	A little	A lot	Very great deal	Row Total
Male	10	8	11	50	91	17.0
% of total	5.9	4.7	6.5	29.4	53.5	75.9
Female	4	2	2	18	28	54
% of total	7.4	3.7	3.7	33.3	51.9	24.1
Column Total	14 6.3	10 4.5	13 5.8	68 30.4	114 53.1	224 100.0

Table 5.16 shows that 83.5% wished to join the VTE 'a lot or a very great deal'. Those who did not wish to join VTE at all were only 6.3% and those who had 'very little' or 'a little' wish to join were 10.3%. The crosstabulation indicates that the percentage of students who had 'a lot' or 'very great' wish to join VTE was less in female students 82.9% than in male students 85.2%. The percentage of students who had 'very little' or 'a little' wish to join VTE in male students was 11.2% compared to female students 7.4%. Those who did 'not at all' wish to join VTE were higher among female students than male students (11.1% and 10.6%). One can observe a fairly high wish or motivation to join VTE (83.5% of the students responded 'a lot or very great deal').

Table 5.17: Q2: Joining VTE, V5: To what extent did you really wish to join VTE? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4553.0	0.9216

The Mann-Whitney U Test in table 5.17 indicates that the difference in opinion between the male and female students is statistically non-significant (P>0.05) i.e. there is a commonly shared positive desire to enter VTE.

Table 5.18: Q3: To what extent is your current speciality attributed to: V1: personal interest? Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	3	11	9	42	105	17.0
% of total	1.8	6.5	5.3	24.7	61.8	75.9
Female	3	3	2	14	33	54
% of total	3.7	3.2	3.7	25.9	61.1	24.1
Column Total	5	14	11	56	138	224
	2.2	6.3	4.9	25.0	61.6	100.0

Table 5.18 shows that 86.6% strongly agreed or agreed with the statement, while 8.5% strongly disagreed or disagreed. This shows a major difference between them and a high level of motivation (as in table 5.16). The percentage of those who were undecided was 4.9%. The crosstabulation indicated that the percentage of male students who strongly agreed or agreed was 86.5%, which is slightly lower than the female students (87.0%).

Those who rejected the statement (strongly disagreed or disagreed) is slightly higher in the male students (8.3%) than the female students (6.9%). If we combine the unsure with those who rejected the statement the percentage is still lower than those who accepted it (13.4% and 86.6%).

Table 5.19: Q3: To what extent is your current speciality attributed to: V1: personal interest? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4559.0	0.9313

The Mann-Whitney U Test reveals in Table 5.19 that the difference between male and female students' responses to the statement is not significant (P>0.05).

Table (5.20) Q3: To what extent is your current specialisation attributed to V2: The over-demand in some fields? Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	28	68	29	28	17	17.0
% of total	16.5	40.0	17.0	16.5	10.0	75.9
Female	16	14	6	13	5	54
% of total	29.6	25.9	11.1	24.0	9.3	24.1
Column Total	44 19.6	82 36.6	35 15.6	41 18.3	22 9.8	224 100.0

Table 5.20 indicates that 56.2% of the whole population strongly disagreed or simply disagreed with the statement. Those who strongly agreed or just agreed were 28.1%. However, those who did not make up their mind were 15.6%. The crosstabulation tells us more information about their responses. The percentage of male students who strongly disagreed or agreed with the statement is slightly higher 56.5% compared to the female students 55.5%. On the other hand, there are more female students who strongly agreed or agreed with the statement 33.3% than male students 26.5%. Those who were unsure were more from female students (17.0%) than female students

(11.1%). There is a slightly more even distribution of responses to the rating scale here.

Table 5.21: Q3: To what extent is your current specialisation attributed to V2: The over-demand in some field? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4369.5	0.5821

The Mann-Whitney U Test reveals in Table 5.21 that the difference between male and female students' responses to the statement is not significant (P>0.05).

Table 5.22: Q3: To what extent is your current speciality attributed to: V3: Government demands for certain specialisations? Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	2	5	19	58	86	17.0
% of total	1.2	2.9	11.2	34.1	50.6	75.9
Female		3	1	23	27	54
% of total		5.7	1.9	42.6	48.1	24.1
Column Total	2 0.9	8 3.6	20 8.9	81 36.2	113 50.4	224 100.0

Table 5.22 shows that 86.1% strongly agreed or agreed with the statement, while only 4.5% opposed the statement and 8.9% did not make up their mind. The crosstabulation shows that responses of 'strongly agreed' or 'agreed' were higher among female students 90.7% than male students 84.7%. On the other hand, there were 4.1% of male students who strongly disagreed or disagreed with the statement compared to 5.6% of

female students. The unsure were 11.2% of male students compared to 1.9% female students.

Table 5.23: Q3: To what extent is your current speciality attributed to: V3: Government demands for certain specialisations? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	44456.0	0.7219

The Mann-Whitney U Test reveals in Table 5.23 that the difference between male and female students' response to the statement is not significant (P>0.05).

Table 5.24: Q3: To what extent is your current speciality attributed to V4: Hesitancy in making a choice? Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	74	66	12	12	6	17.0
% of total	43.5	38.8	7.0	7.0	3.5	75.9
Female	19	30	3		2	54
% of total	35.2	55.6	5.6		3.7	24.1
Column Total	93 41.5	96 42.9	15 6.7	12 5.4	8 3.6	224 100.0

Table 5.24 shows that 84.4% strongly disagreed or disagreed with the statement while those who accepted the statement (strongly agreed or agreed) is 9.0%. The unsure students comprise 6.7%. The crosstabulation shows that more female students (90.8%) strongly disagreed or disagreed with the statement than male students (82.3%). More male students accepted the statement (10.5%) than female students (3.7%). More male students than female (7.0% and 5.6%) were unsure.

Table 5.25: Q3: To what extent is your current speciality attributed to V4: Hesitancy in making a choice? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4495.0	0.8038

The Mann-Whitney U Test reveals in Table 5.25 that the difference between male and female students' responses to the statement is not significant (P>0.05). This confirms table 5.23 which, taken together, indicate a high motivation to join VTE, regardless of gender.

Table 5.26: Q3: To what extent is your current speciality attributed to: V5: Because you followed special criteria that record your abilities? Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	29	45	37	43	16	17.0
% of total	17.0	26.5	21.8	25.3	9.4	75.9
Female	8	20	12	12	2	54
% of total	14.8	37.0	22.2	22.2	3.7	24.1
Column Total	37 16.5	65 29.0	49 21.9	55 24.6	18 8.0	224 100.0

Table 5.26 shows that 32.6% strongly agreed or agreed with the statement while 45.5% strongly disagreed or simply disagreed with the statement. Those who were unsure were 21.9%. There were more male students 37.4% who strongly agreed or agreed with the statement than female students 25.9%. On the other hand, more female students opposed the statement 51.8% than male students 43.5%. More female students were undecided than male students (22.2% and 21.8%). One can observe an even distribution of responses here.

Table 5.27: **Q3: To what extent is your current speciality attributed to: V5: Because you followed special criteria that record your abilities? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.**

Variables	U value	Significance
Male Female	4170.0	0.2978

The Mann-Whitney U Test reveals in Table 5.27 that the difference between male and female students' responses to the statement is not significant (P>0.05).

Table 5.28: **Q4: Have you ever failed at one section of your study? Crosstabulation, frequencies and percentage counts by gender.**

Variable	Never	Once	More than once	Row Total
Male %	30	45	95	17.0
of total	17.6	26.5	55.9	75.9
Female	18	14	22	54
% of total	33.3	25.9	40.7	24.1
Column Total	48 21.4	59 26.3	117 52.2	224 100.0

Table 5.28 shows that 21.4% had never failed while 52.2% had failed more than once and 26.3%) had failed only once. Crosstabulation reveals that there were more male students who had failed more than once than female students (55.9% and 40.7% respectively); also there were more female students who had never failed than male students (33.3% and 17.6% respectively). There was no great difference between male and female students who had failed only once (males 26.5% and females 25.9%).

Table 5.29: Q4: Have you ever failed at one section of your study? Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	3700.0	0.0185

In the above table the Mann-Whitney U Test (Table 5.29) shows that the difference between male and female students' answers to Q4 is statistically significant ($P<0.05$) particularly on the categories of (never) and (more than once). Failure, when taken with Table 5.28 then, even though greater for males than females, does not seem to diminish their motivation.

Table 5.30: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V1: Need for money? Crosstabulation, frequencies and percentage counts by family income.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Low income % of total	31 27.9	28 25.2	27 24.3	19 17.1	6 5.4	111 49.6
Medium income % of total	25 33.3	22 29.3	16 21.3	11 14.7	1 1.3	75 33.5
High income % of total	10 26.3	12 31.6	8 21.0	6 15.8	2 5.2	38 17.0
Column Total	66 29.5	62 27.7	51 22.8	36 16.1	9 4.0	224 100.0

Table 5.30 indicates that most students strongly disagreed or just disagreed with the statement (57.2%) while 22.8% were unsure; those who strongly agreed or agreed were 20.1%.

The crosstabulation reveals that there are more students from medium income homes (62.6%) who strongly disagreed or disagreed with the statement of "joining VTE for

money" and the lowest disagreement was from students with low income (51.1%) compared to the high income (57.9%). Another point that is revealed from the crosstabulation is that those who strongly agreed or agreed registers a low percentage in the three income levels, from medium income (16.0%) and high income (21.1%) to low income (22.5%).

Table 5. 31: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V1: Need for money? Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by family income.

Variables	Chi-Square (Corrected for ties)	Significance
Low Income Medium Income High Income	1.8627	0.3940

The Kruskal-Wallis Test on the above question by family income (table 5.31) suggested that the difference between the students' answers for the three family income levels is not statistically significant (P>0.05). One can observe that income has no effect on joining VTE.

Table 5.32: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V2: Because the general academic curriculum in school is difficult? Crosstabulation, frequencies and percentage counts by family income.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Low income % of total	22 19.8	33 29.7	17 15.3	22 19.8	17 15.3	111 49.6
Medium income % of total	9 12.0	17 22.7	15 20.0	19 25.3	15 20.0	75 33.5
High income % of total	5 13.2	11 28.9	9 23.7	7 18.4	6 15.8	38 17.0
Column Total	36 16.1	61 27.2	41 18.3	48 21.4	38 17.0	224 100.0

Table 5.32 reveals that 43.3% strongly disagreed or disagreed. Those who strongly agreed or just agreed with the statement were 38.4%. The unsure students were 18.3%. The same table tells us that the low income students more strongly disagreed or disagreed a little with "joining VTE because the general academic curriculum in school is difficult". The medium family income group indicated disagreement of 34.7%, a percentage which is smaller than that for the high family income group 42.1%. Another point that is revealed through crosstabulation is that there were more students from medium family income groups who strongly agreed or agreed with the statement (45.3%) than those from low family income groups (35.1%) and high income groups (34.2%). The same table (5.32) shows that more unsure students came from high income groups (23.7%), also less unsure students came from low income families (15.3%).

Table 5.33: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V2: Because the general academic curriculum in school is difficult? Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by family income.

Variables	Chi-Square (Corrected for ties)	Significance
Low Income Medium Income High Income	3.5916	0.1660

The Kruskal-Wallis Test in table 5.33 suggests that there was a non-significant statistical difference between subjects' answers (P>0.05).

Table 5.34: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V4: A desire to reduce the dependence on foreign workers? Crosstabulation, frequencies and percentage counts by family income.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Low income % of total	1 0.9	3 2.7	12 10.8	24 21.6	71 64.0	111 49.6
Medium income % of total	2 2.7	6 8.0	12 16.0	13 17.3	42 56.0	75 33.5
High income % of total		3 7.9	8 21.0	13 34.2	14 36.8	38 17.0
Column Total	3 1.3	12 5.4	32 14.3	50 22.3	127 56.7	224 100.0

Table 5.34 tells us that 79% strongly agreed or agreed with the statement, those who were unsure were 14.3% and those who strongly disagreed or disagreed 6.7%, which is almost half of those who were unsure. If we combine those who were unsure with those who strongly disagreed or disagreed 21.0% still the percentage is lower than

those who strongly agreed or agreed. Also the crosstabulation shows that students from low income groups strongly agreed or agreed with the statement (85.6%) compared to those from medium income groups (73.3%). Those from high income groups registered the lowest figure (71.0%). There was a very low percentage of the three groups who strongly disagreed or disagreed, those from medium income group were 10.7%, those from high income group were 7.9% and those from low income were 3.6%. One can observe a strong nationalism present in the respondents.

Table 5.35: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V4: A desire to reduce the dependence on foreign workers? Kruskal-Wallis Test by family income.

Variables	Chi-Square (Corrected for ties)	Significance
Low Income Medium Income High Income	8.4899	0.0143

Table 5.35 shows that there is a statistically significant difference between the groups of students, ($P<0.05$) particularly on the categores of 'unsure', 'agree' and 'strongly agree'. Also one can observe that regardless of students' families' income all of them are keen to reduce the dependence on foreign workers.

Table 5.36: **Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V5: Availability of jobs after graduation? Crosstabulation, frequencies and percentage counts by family income.**

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Low income % of total	3 2.7	1 0.9	17 15.3	36 32.4	54 48.6	111 49.6
Medium income % of total	1 1.3	2 2.7	12 16.0	32 42.7	28 37.3	75 33.5
High income % of total		6 15.8	9 23.7	14 36.8	9 23.7	38 17.0
Column Total	4 1.8	9 4.0	38 17.0	82 36.6	91 40.6	224 100.0

Table 5.36 indicates that 77.2% of the students strongly agreed or agreed with the statement while 17.0% were unsure. Those who opposed the statement were 5.8%. Crosstabulation shows that the aggregation of columns 4 and 5 those who strongly agreed or agreed was higher among low income groups 81.0%. Very few students who strongly disagreed or disagreed were in the high income group 15.8% with the medium income group registering 4.0%. Finally the lowest percentage of 3.6% was in the low income group. The percentage of unsure was higher in students from high income groups (23.7%), followed by those in medium income groups (16.8%) and low income groups (15.3%).

Table 5.37: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V5: Availability of jobs after graduation? Kruskal-Wallis Test by family income.

Variables	Chi-Square (Corrected for ties)	Significance
Low Income Medium Income High Income	0.2971	0.0058

Table 5.37 shows that there is a statistically significant difference between the three responses ($P<0.01$) particularly on the categories of 'disagree' and 'strongly agree', i.e. income and jobs availability were significant factors in students' choosing VTE.

Table 5.38: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V7: Because you failed in general academic schools. Crosstabulation, frequencies and percentage counts by family income.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Low income % of total	40 36.0	32 28.8	21 18.9	13 11.7	5 4.5	111 49.6
Medium income % of total	29 38.7	20 26.7	9 12.0	10 13.3	7 9.3	75 33.5
High income % of total	10 26.3	15 39.5	8 21.0	4 10.5	1 2.6	38 17.0
Column Total	79 35.3	67 29.9	38 17.0	27 12.1	13 5.8	224 100.0

Table 5.38 shows that 65.2% resisted the statement which said "they joined VTE because of failure in general academic school". Those who supported the statement were only 17.9% and those who were unsure were little different from those who strongly agreed or agreed (17.0%). The crosstabulation shows that more students from

the high income group opposed this statement (65.8%) than the other two groups, medium income (65.4%) and low income (64.8%).

Those who were unsure were greater among the high income group (21.0%) than the low income group (18.9%) and the medium income group (12.0%). From the same table one can see that those who strongly agreed or agreed were higher in students from medium income group (22.6%) than low income group (16.2%) and high income group (13.1%).

Table 5.39: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V7: Because you failed in general academic schools? Kruskal-Wallis Test by family income.

Variables	Chi-Square (Corrected for ties)	Significance
Low Income Medium Income High Income	0.2032	0.9034

The Kruskal-Wallis Test in table 5.39 suggests that there is no statistically significant difference among the three groups' answers (P>0.05).

Table 5.40: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V11: Because it enables you to gain practical experience for future employment? Crosstabulation, frequencies and percentage counts by family income.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Low income % of total	4 3.6	2 1.8	6 5.4	34 30.6	65 58.6	111 49.6
Medium income % of total			5 6.7	26 34.7	44 68.7	75 33.5
High income % of total			4 10.5	20 52.6	14 36.8	38 17.0
Column Total	4 1.8	2 0.9	15 6.7	80 35.7	123 54.9	224 100.0

Table 5.40 shows that 90.6% of the student population supported the statement (strongly agreed or agreed). On the other hand, those who opposed the statement were only 2.7%. The unsure were 6.7%. Crosstabulation shows that students from medium income groups more strongly agreed or agreed with the statement (93.4%) than those from high income group (89.4%) and those from low income groups (89.2%).

Table 5.41: Q5: To what extent does your wish to join VTE have anything to do with the following reasons: V11: Because it enables you to gain practical experience for future employment? Kruskal-Wallis Test by family income.

Variables	Chi-Square (Corrected for ties)	Significance
Low Income Medium Income High Income	4.8775	0.0873

Table 5.41 reveals that there is no statistically significant difference between the three aspects (P>0.05), i.e. the goal of future employment is very important, particularly for the low income groups.

Table 5.42: Q6: What is the best method in your view to gain knowledge in VTE institution: V1: Studying through formal classroom work? Mann-Whitney U Test by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	2	28	34	68	38	170
% of total	1.2	16.5	20.0	40.0	22.4	75.9
Female	2	2	6	31	13	54
% of total	3.7	3.7	11.1	57.4	24.1	24.1
Column Total	4	30	40	99	51	224
	1.8	13.4	17.9	44.2	22.8	100.00

Table 5.42 shows that the vast majority of the population (67.0%) strongly agreed or agreed with the statement while 15.2% strongly disagreed or disagreed.

Those who did not make up their minds were 17.9%. The crosstabulation shows that female students more strongly agreed or agreed with the statement (81.5%) than male students (62.4%). The unsure were more among male students (20.0%) than female students (11.1%), also there was a little more resistance among male students (17.7%) than female students (7.4%). One can observe that most students support the view that studying in formal classroom work is the best method.

Table 5.43: Q6: What is the best method in your view to gain knowledge in VTE institution: V1: Studying through formal classroom work? Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	3863.0	0.0638

The Mann-Whitney U Test (Table 5.43) shows that the difference between male and female students answers to Q6V1 is statistically not significant (P>0.05), i.e. that there is a high and shared perception of the value of classroom work.

Table 5.44: Q6: What is the best method in your view to gain knowledge in VTE institution: V2: Learn through workshops and laboratories? Frequency and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	4	11	19	58	78	170
% of total	2.4	6.5	11.2	34.1	45.9	75.9
Female	2	4	5	26	17	54
% of total	3.7	7.4	9.3	48.1	31.5	24.1
Column Total	6	15	24	84	95	224
	2.7	6.7	10.7	37.5	42.4	100.00

Table 5.44 shows that 79.9% strongly agreed or agreed with the statement. The figure of those who strongly disagreed or disagreed was 9.4%. Finally, those who did not make up their minds were 10.7%. Crosstabulation revealed that more agreement came among male students (80.0%) than female students (79.6%). Those who strongly disagreed or disagreed were more among female students (11.1%) than male students (8.9%). Unsure were 11.2% in male students and lower among female students 9.3%. One can observe that there is massive agreement with this, which reinforces the point

mentioned earlier that students value the practical nature of VTE, and the point in the previous table that students seem to be valuing learning regardless of its nature.

Table 5.45: Q6: What is the best method in your view to gain knowledge in VTE institution: V2: Learn through workshops and laboratories? Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	4029.5	0.1474

The Mann-Whitney U Test in table 5.45 suggests that the difference between the responses of male and female students is statistically not significant (P>0.05); again a shared perception emerges of the immense value of workshops and laboratories, which was higher than the previous table which dealt with classroom study.

Table 5. 46: Q6: What is the best method in your view to gain knowledge in VTE institution: V3: Familiarisation programme to factories and production sectors? Frequency and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	7	11	34	72	46	170
% of total	4.1	6.5	20.0	42.4	27.1	75.9
Female		8	14	18	14	54
% of total		14.8	25.9	33.3	25.9	24.1
Column Total	7	19	48	90	60	224
	3.1	8.5	21.4	40.2	26.8	100.00

Table 5.46 shows that 67.0% strongly agreed or agreed with the statement while 11.6% strongly disagreed or disagreed. The percentage count shows that 21.4% of the students did not make up their minds. Crosstabulation shows that higher agreement was among male students (69.5%) than female students (59.2%). On the other hand,

those who opposed the statement were very little higher among female students (14.8%) and lower among male students (10.6%). Again one can observe that there is overwhelming support for the view that VTE should be practical and linked to jobs/work experience, confirming the previous table of the value of on the job practical training.

Table 5.47: Q6: What is the best method in your view to gain knowledge in VTE institution: V3: Familiarisation programme to factories and production sectors? Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	4232.0	0.3645

The Mann-Whitney U Test (Table 5.47) shows that the difference between male and female students' answer to Q6V3 is statistically not significant (P>0.05), again indicating a shared perception.

Table 5.48: Q6: What is the best method in your view to gain knowledge in VTE institution: V4: Use of institute school library? Frequency and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	6	36	56	56	16	170
% of total	3.5	21.2	32.9	32.9	9.4	75.9
Female		9	13	25	7	54
% of total		16.7	24.1	46.3	13.0	24.1
Column Total	6 2.7	45 20.1	69 30.8	81 36.2	23 10.3	224 100.0 0

Table 5.48 shows that those who strongly agreed or agreed were 46.5% and for those who strongly disagreed or disagreed were 22.8%. The percentage of the unsure students were 30.8%. Crosstabulation indicated that greater agreement came from

female students (59.3%) than male students (42.3%). Higher disagreement was from male students (24.7%) than female students (16.7%). The 'unsure' were more from male students (32.9%) than female students (24.1%). This indicates that students perceive the need for library sources to help them, although this is not as high as the value accorded to practical work.

Table 5.49: Q6: What is the best method in your view to gain knowledge in VTE institution: V4: Use of institute library? Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	3770.0	0.0387

Table 5.49 indicates that the difference between male and female students' responses is statistically significant ($P<0.05$). One can observe that students of VTE believe that the library is an important resource to gain knowledge.

Table 5.50: Q7: To what extent do you believe you intend to work in the future in your current specialisation? Crosstabulation, frequencies and percentage counts by gender.

Variables	Not at all	Very little	A little	A lot	Very great deal	Row Total
Male % of total	5 2.9	16 9.4	32 18.8	57 33.5	60 35.3	170 75.9
Female % of total	2 3.7	1 1.9	10 18.5	20 37.0	21 38.9	54 24.1
Column Total	7 3.1	17 7.6	42 18.8	77 34.4	81 36.2	224 100.0

Table 5.50 shows that only 3.1% did not intend to work at all in their current specialisations after graduation, while 70.6% intended to work in their current specialisation a lot or a very great deal. Those who responded 'very little' or 'a little' were 26.4%. If we combine those who responded 'a little' and 'very little' with those

who said 'not at all', the percentage is 29.5%, which is still lower than those who responded 'a lot' or 'a very great deal'. The same table reveals that more female students responded 'a lot' or 'very great deal' than male students (75.1% and 70.5%).

Table 5.51: Q7: To what extent do you believe you intend to work in the future in your current specialisation? Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	4222.0	0.3511

The Mann-Whitney U Test (table 5.51) shows that there was no significant difference (P>0.05) between male and female students' answers. One can observe that students were keen to follow up their specialisations into work.

Table 5.52: Q9: The perceptions of vocational and technical education (VTE):V2: The teacher or trainer embarks on clarifying the objectives of the courses to all students. Cross-tabulation, frequency and percentage counts by gender.

Variables (Gender)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	3	11	15	94	47	170
% of total	1.8	6.3	8.8	55.3	27.6	75.9
Female	1	4	8	29	12	54
% of total	1.9	7.4	14.8	53.7	22.2	24.1
Column Total	4 1.8	15 5.7	23 10.3	123 54.9	59 26.3	224 100.0

Table 5.52 reveals a high percentage of those who agreed and strongly agreed, both male and female students (81.2%) compared to those who opposed (strongly disagreed or disagreed) (7.5%). The table shows that the percentage of male students who agreed or strongly agreed (82.9%) is slightly higher than that of the female (75.9%). Combining the 'unsure' in cell 3 with those who strongly disagreed or disagreed with

the statement still gives a low percentage (17.8%) compared to the vast majority who strongly agreed or agreed. Those who rejected the statement (strongly disagreed or disagreed) is slightly higher in females (9.3%) compared to males (8.1%). One can observe that the students seek information and clarification of aspects of the course.

Table 5.53: Q9: The perceptions of vocational and technical education (VTE):V2: The teacher or trainer embarks on clarifying the objective of the courses to all students. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4169.5	0.2615

Table 5.53 shows that there is no significant difference between the responses of male and female students (P>0.05).

Table 5.54: Q9: The perceptions of vocational and technical education (VTE):V4: The government encourages students to join VTE. Cross-tabulation, frequencies and percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	7	21	22	59	61	170
% of total	4.1	12.4	12.9	34.7	35.9	75.9
Female	2	4	3	16	29	54
% of total	3.7	7.4	5.6	29.6	53.7	24.1
Column Total	9 4.0	25 11.2	25 11.2	75 33.5	90 40.2	224 100.0

Table 5.54 shows that 15.2% of the whole population strongly disagreed or simply disagreed with the statement. Those who strongly agreed and those who agreed comprised a majority of 73.7%. However, those who did not make their mind were 11.2%. The cross-tabulation tells us that the percentage of female students who

strongly agreed or agreed with the statement is higher (83.3%) compared to the male students (70.6%). On the other hand there were more male students who were unsure (12.9%) than the female students (5.6%). There were more male students who strongly disagreed or disagreed with the statement (16.5%) than female students (11.1%).

Table 5.55: Q9: The perceptions of vocational and technical education (VTE):V4: The government encourages students to join VTE. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	3668.5	0.0189

Table 5.55 above shows that the difference between the responses of the male and female students to question Q9V4 is statistically significant ($P<0.05$) particularly on the categories of (unsure) and (strongly agree) (table 5.54). One can conclude that the vast majority strongly believe that the government encourages students to join VTE, and that female students believed this particularly strongly.

Table 5.56: Q9: The cognition of VTE:V6: I receive vocational guidelines from the vocational counsellor at my institute now. Cross-tabulation, frequency and percentage counts by Institute.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	2	3	11	28	25	69
% of total	2.9	4.3	15.9	40.6	36.2	30.8
Inst (2)	3	9	18	35	6	71
% of total	4.2	12.7	25.4	49.3	8.5	31.7
Inst (3)	3	7	17	43	14	84
% of total	3.6	8.3	20.2	51.2	16.7	37.5
Column Total	8 3.6	19 8.5	46 20.5	106 47.3	45 20.1	224 100.0

Table 5.56 shows that 67.4% strongly agreed or agreed that they were receiving vocational guidelines from a vocational counsellor of their institute and 12.1% did not agree or strongly disagreed, while the unsure were 20.5%. The cross-tabulation shows that students who agreed with the statement were 76.8% from Inst (1), 67.9% from Inst (2) and 57.8% from Inst (3). The percentage of those who strongly disagreed or disagreed is higher in Inst (3) than Inst (2) or Inst (1), being (16.9%), (11.9%) and (7.2%) respectively. The unsure are higher in Inst (2) (25.4%) than Inst (3) (20.2%); finally Inst (1) showed the lowest percentage of unsure (15.9%).

Table 5.57: **Q9: The perceptions of vocational and technical education (VTE):V6: I receive vocational guidelines from the vocational counsellor at my institute now. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.**

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	14.4703	0.0007

The Kruskal-Wallis Test (table 5.57) shows that the difference between the institutes is statistically significant ($P<0.001$) particularly on the categores of 'disagree', 'unsure' and 'strongly agree'. Given the responses to the rating scales (table 5.56) one can detect an unevenness of provision of counselling in the institutes and an indication that generally more could be done here regardless of institution, particularly in Insts 2 and 3.

Table 5.58: **Q9: The perceptions of vocational and technical education (VTE):V7: Practical training of the institutes is of the highest standard. Cross-tabulation, frequency and percentage counts by gender.**

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	15	25	44	57	29	170
% of total	8.8	14.7	25.9	33.5	17.1	75.9
Female	1	11	8	22	12	54
% of total	1.9	20.4	14.8	40.7	22.2	24.1
Column Total	16 7.1	36 16.1	52 23.2	79 35.3	41 18.3	224 100.0

The table above tells us that 32.2% rejected the statement while 53.6% supported it. The same table also tells us that there is a large number of those who have not decided (23.2%). Of those who have not decided 25.9% were males and 14.8% females. The

percentage of those who accepted the statement from the female students ('strongly agree' or 'agree') is higher (62.9%) than male students (50.6%). When combining those who have unsure in column 3 with those who strongly disagreed or disagreed the percentage is 46.4%, which is lower than those who strongly agreed or agreed with the statement 53.6%. This indicates doubt in the students' minds about the quality of the training that they receive.

Table 5. 59: Q9: The perceptions of vocational and technical education (VTE):V7: Practical training of the institution is of the highest standards. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4033.0	0.1645

Table 5.59 shows that there is no significant difference between the responses of male and female students P>0.05. Though there is a non-significant difference between the responses of male and female students, one can observe from table 5.58 that there were 23.5% of male students and 22.3% of female students who strongly disagreed or disagreed with the statement .

Table 5.60: Q9: The cognition of VTE:V8: The institute building in which I study serves the purpose very well. Cross-tabulation, frequency and percentage counts by Institute.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	14	13	12	22	8	69
% of total	20.3	18.8	17.4	31.9	11.6	30.8
Inst (2)	7	9	10	37	8	71
% of total	9.9	12.7	14.1	52.1	11.3	31.7
Inst (3)	17	20	13	28	6	84
% of total	20.2	23.8	15.5	33.3	7.1	37.5
Column Total	38 17.0	42 18.8	35 15.6	87 38.8	22 9.8	224 100.0

Table 5.60 shows that 48.6% of all students strongly agreed or agreed with the statement while those who strongly disagreed or disagreed were 35.8%. The cross-tabulation shows the distribution of students who accepted the statement from Inst (2), (1) and (3), were 53.4%, 43.5% and 40.4% respectively. Those who did not agree or strongly disagreed with the statement were higher in Inst (3) (44.0%) than in Inst (1) (39.1%) and Inst (2) (22.6%). There is, therefore, an indication of significantly uneven provision in different institutions and generally an indication that more could be done to improve this area.

Table 5.61: Q9: The cognition of VTE:V8: The institute building in which I study serves the purpose very well. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	8.7130	0.0127

The Kruskal-Wallis Test in table 5.61 reveals a significant difference in the responses of students from the three institutes ($P<0.05$). Here the differences in distributions noted in table 5.60 by institution is an important one.

Table 5.62: Q9: The cognition of VTE:V9: The tools and machines in the institute serve the purpose of educational expectations. Cross-tabulation, frequency and percentage counts by Institute.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	8	8	10	32	11	69
% of total	11.6	11.6	14.5	46.4	15.9	30.8
Inst (2)		3	8	45	15	71
% of total		4.2	11.3	63.4	21.2	31.7
Inst (3)	5	14	13	41	11	84
% of total	6.0	16.7	15.5	48.8	13.1	37.5
Column Total	13 5.8	25 11.2	31 13.8	118 52.7	37 16.5	224 100.0

Table 5.62 shows that 69.2% of the students accepted the statement (strongly agreed or agreed). Those who strongly disagreed or disagreed with the statement were 17.0% and the unsure were 13.8%. The cross-tabulation shows that students from Inst (2) agreed (84.6%) more than students in other institutes that "the tools and machines used in their institutes serve the purpose". Students who strongly disagreed or disagreed with the statement were 23.2% from Inst (1) compared to 22.7% from Inst (3) and 4.2% from Inst (2).

Table 5.63: Q9: The cognition of VTE:V9: The tools and machines in the institute serve the purpose of educational expectations. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	11.3232	0.0035

The Kruskal-Wallis Test in table 5.63 reveals that there is a highly significant difference in the responses of students from the three institutes ($P<0.01$) particularly on the categories of 'strongly disagree', 'disagree', 'agree' and strongly agree' (table 5.62). Hence there is a variety of responses to the statement by institution and levels of 'satisfaction', and generally an indication of room for improvement here.

Table 5. 64: Q9: The perceptions of vocational and technical education (VTE):V10: The standard of general education in the institute serves the required purpose. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	5	17	23	91	34	170
% of total	2.9	10.0	13.5	53.5	20.0	75.9
Female		4	8	35	7	54
% of total		7.4	14.8	64.8	13.0	24.1
Column Total	5 2.2	21 9.4	31 13.8	126 56.3	41 18.3	224 100.0

Table 5.64 shows that 74.6% agreed that the standard of general education in the institute serves the purpose while 11.6% rejected the statement and 13.8% could not decide. Referring to the cross-tabulation, more female students agreed with the

statement (77.8%) than the male students (73.5%). On the other hand, 12.9% of the males rejected the statement compared to 7.4% of the female students. If we add up those who were unsure with those who rejected the statement the percentage of those who accepted the statement is still higher (25.4% and 74.6%). Hence the standard of general, as opposed to specific, VTE was seen to be acceptable.

Table 5.65: Q9: The perceptions of vocational and technical education (VTE):V10: The standard of general education in the institute serve the required purpose. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4560.5	0.9371

The Mann-Whitney U Test in table 5.65 indicates that the difference in the opinion of male and female students is statistically non-significant (P>0.05), i.e. there is a shared perception of the acceptability of general education provided.

Table 5.66: Q9: The cognition of VTE: V11:Both teachers and trainers are of the best standards. Cross-tabulation, frequency and percentage counts by Institute.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	1	5	4	36	23	69
% of total	1.4	7.5	5.8	52.2	33.3	30.8
Inst (2)	2	5	12	39	13	71
% of total	2.8	7.0	16.9	54.9	18.3	31.7
Inst (3)	1	3	13	54	13	84
% of total	1.2	3.6	15.5	64.3	15.5	37.5
Column Total	4 1.8	13 5.8	29 12.9	129 57.6	44 21.9	224 100.0

Table 5.66 shows that the number of students from Inst (1) who strongly agreed or agreed with the statement (85.5%) is higher than that of Inst (2) (73.2%). Of those who strongly disagreed or disagreed the highest came from Inst (2) (9.8%), then Inst (1) (8.9%) and finally Inst (3) (4.7%). One can observe a general agreement with the statement.

Table 5.67: Q9: The perceptions of vocational and technical education (VTE):V11: Both teachers and trainers are of the best standards. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	6.6732	0.0356

The Kruskal-Wallis Test in table 5.67 reveals that there is a significant difference in the response of students from the three institutes ($P<0.05$) particularly on the categories of 'disagree', 'unsure' and 'strongly agree' (table 5.66). There is a differential response by institution and a small measure of general dissatisfaction. The level of dissatisfaction was strongest in Inst (2).

Table 5.68: Q9: The perceptions of vocational and technical education (VTE):V12: Both management and organisation are very progressive. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	13	14	33	75	30	170
% of total	7.6	11.2	19.4	44.1	17.6	75.9
Female	2	12	10	24	6	54
% of total	3.7	22.7	18.5	44.4	11.1	24.1
Column Total	15 6.7	31 13.8	43 19.2	99 44.2	36 16.1	224 100.0

Table 5.68 shows that 60.3% accepted the statement (strongly agreed or agreed). Those who rejected it (strongly disagreed or disagreed) were 20.5% and those who were unsure were 19.2%. If the unsure are added to those who rejected the statement the percentage becomes 39.7%, which is still lower than that of students who were in favour of the statement. In columns 4 and 5 the cross-tabulation shows that there are more male students who strongly agreed or agreed with the statement (61.7%) than female students (55.5%). The 'undecided' responses were higher among the male

students (19.4%) than among the female students (18.5%). There were more females who opposed the statement (25.9%) than male students (18.8%). Students generally seemed satisfied here though there was an indication of a lack of total satisfaction.

Table 5.69: Q9: The perceptions of vocational and technical education (VTE):V12: Both management and organisation are very progressive. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4158.0	0.2723

The Mann-Whitney U Test in table 5.69 indicates that the difference in the responses between the male and female students is statistically non-significant (P>0.05). The percentage of those who accepted the statement is higher than those who rejected it in both the male and female student populations.

Table 5.70: Q9: The perceptions of vocational and technical education (VTE):V14: Vocational and technical education plays a key role in resolving the lack of Qatar technical skilled labour. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male		4	10	46	110	170
% of total		2.4	5.9	27.1	64.7	75.9
Female		1	1	17	35	54
% of total		1.9	1.9	31.5	64.8	24.1
Column Total		5 2.2	11 4.9	63 28.1	145 64.7	224 100.0

Table 5.70 indicates that the overwhelming majority of responses supported the statement (92.8%) compared to only 2.2% who rejected the statement. The unsure were 4.9%. The cross-tabulation shows that the higher response among those who accepted the statement came from the female students (96.3%) than the male students (91.8%). As for those who disagreed with the statement, 2.4% came from males and

1.9% from females. Of the unsure, 5.9% were male and 1.9% female. There is a high skewing towards agreement with the statement, regardless of gender.

Table 5.71: Q9: The perceptions of vocational and technical education (VTE):V14: Vocational and technical education plays a key role in resolving the lack of Qatar technical skilled labour. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4515.0	0.8297

As indicated by the Mann-Whitney U Test in table 5.71 above, the difference between the responses of the male and female students is statistically non-significant (P>0.05). The vast majority of male and female students strongly agreed or agreed with the statement (table 5.70).

Table 5.72: Q9: The perceptions of vocational and technical education (VTE):V15: VTE enjoys less prestige than academic schools. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	14	30	33	51	42	170
% of total	2.2	17.6	19.4	30.0	24.7	75.9
Female	11	18	9	13	3	54
% of total	20.4	33.3	14.7	24.1	5.6	24.1
Column Total	25 11.2	48 21.4	42 18.8	64 28.6	45 20.1	224 100.0

Table 5.72 shows that 32.6% strongly disagreed or disagreed with the statement that "VTE enjoys less prestige than academic schools". Those who accepted the statement (strongly agreed or agreed) were 48.7%. The unsure were 18.8%. More of the female students (53.7%) rejected the statement compared to males (25.8%). On the other hand, more of the males (54.7%) accepted the statement compared to females (29.7%). Of the unsure, more were males (19.4%) than females (16.7%). If the

percentage of unsure is added to the percentage who rejected the statement, the number will be higher (71.4%) than those who accepted the statement (48.7%). One can see that the status of VTE is mixed, females tending to disagree and males tending to agree with the statement of the title.

Table 5.73: Q9: The perceptions of vocational and technical education (VTE):V15: VTE enjoys less prestige than academic schools. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	2923.0	0.0000

The Mann-Whitney U Test in table 5.73 indicates a highly significant difference in the responses of the male and female students ($P<0.01$), on all the columns of the rating scale (table 5.72) though generally one can discern, once again, the overall high motivation of students towards VTE.

Table 5.74: Q9: The cognition of VTE:V16: There is a lack of respect for VTE institutions. Crosstabulation, frequency and percentage counts by Institute.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	15	15	6	16	17	69
% of total	21.7	21.7	8.7	23.2	24.6	30.8
Inst (2)	8	16	13	23	11	71
% of total	11.3	22.5	18.3	32.4	15.5	31.7
Inst (3)	11	18	14	28	13	84
% of total	13.1	21.4	16.7	33.3	15.5	37.5
Column Total	34 15.2	49 21.9	33 14.7	67 29.9	41 18.3	224 100.0

From the cross-tabulation result in table 5.74, there were more students from the three institutes who strongly agreed or agreed with the statement (48.2%) than those who strongly disagreed or disagreed (37.1%) with the statement. If we add the unsure to

those who strongly disagreed or disagreed the percentage is 51.8%, which is higher than those who strongly agreed or agreed (48.2%). The percentage of students who strongly agreed or agreed is more or less the same in Inst (1) (47.8%), Inst (2) (47.9%) and Inst (3) (48.8%). Concerning disagreement with the statement, more are from Inst (1) (43.4%) compared to Inst (2) (33.8%) and Inst (3) (34.5%). Those who did not make up their mind were highest in Inst (2) (18.3%), followed by Inst (3) (16.7%) and Inst (1) (8.7%). One can observe again that the status of the institution is less of a problem to students than other factors.

Table 5.75: Q9: The perceptions of vocational and technical education (VTE):V16: There is a lack of respect for VTE institutions. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Crrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	0.9432	0.1169

The Kruskal-Wallis Test in table 5.75 indicates that there is no significant difference in the responses of the students from the three institutes (P>0.05).

Table 5.76: Q9: The cognition of VTE:V18: VTE institutions are very important for a modern state. Cross-tabulation, frequency and percentage counts by Institute.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)		1	2	13	53	69
% of total		1.4	2.9	18.8	76.8	30.8
Inst (2)	3	3	2	27	36	71
% of total	4.2	4.2	2.8	38.0	50.7	31.7
Inst (3)	3	1	1	21	58	84
% of total	3.6	1.2	1.2	25.0	69.0	37.5
Column Total	6 2.7	5 2.2	5 2.2	61 27.2	147 65.6	224 100.0

Table 5.76 reveals that 92.8% of the students strongly agreed or agreed with the statement. Those who strongly disagreed or disagreed were 4.9% and those who were unsure were 2.2%. The cross-tabulation indicates that the opinion in favour of the statement ('strongly agreed' or 'agreed') is, in order, Inst (1) (95.6%), Inst (3) (94.0%) and Inst (2) (88.7%). Conversely, students who strongly disagreed or disagreed with the statement are, in order, Inst (2) (8.4%), Inst (3) (4.8%) and Inst (1) (1.4%). This reinforces data from previous tables which indicate a strong recognition of the importance of VTE.

Table 5.77: Q9: The perceptions of vocational and technical education (VTE):V18: VTE institutions are very important for a modern state. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	11.4705	0.032

The Kruskal-Wallis Test in table 5.77 reveals that the difference in the response of the students from the three institutes is statistically significant ($P<0.05$). One can observe a differential response to this item by different institutions, particularly on the categories of 'agree' and 'strongly agree' in table 5.76.

Table 5.78: Q9: The perceptions of vocational and technical education (VTE):V19: Serving the country through joining VTE is a great honour for me. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male		3	10	36	121	170
% of total		1.8	5.0	21.2	71.2	75.9
Female		1	1	9	43	54
% of total		1.9	1.9	16.7	79.6	24.1
Column Total		4 1.8	11 4.9	45 20.1	164 73.2	224 100.0

Table 5.78 reveals that the vast majority of respondents strongly agreed or agreed with the statement (93.3%), especially among the females (96.3%) more than the males (92.4%). Those who disagreed were very few (1.8%) and the unsure were (4.9%). There is a clear skewing in this table to overwhelming support for the statement, regardless of gender.

Table 5.79: Q9: The perceptions of vocational and technical education (VTE):V19: Serving the country through joining VTE is a great honour for me. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4183.0	0.2051

The Mann-Whitney U Test in table 5.79 shows that the difference between the responses of the male and female students is statistically non-significant (P>0.05).

Table 5.80: Q9: The perceptions of vocational and technical education (VTE):V20: Programmes designed for VTE are of a high standard so they are only suitable for intelligent students. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	18	59	39	39	15	170
% of total	10.6	34.7	22.9	22.9	8.8	75.9
Female	10	23	8	11	2	54
% of total	18.5	42.0	14.8	20.4	2	24.1
Column Total	28 12.5	82 36.6	47 21.0	50 22.3	17 7.6	224 100.0

Table 5.80 shows that a high percentage did not agree with the statement (49.1%). Those who accepted the statement were 29.9% and the unsure were 21.0%. A clearer disagreement came from the female students (60.5%) than from the male students (45.3%). Those who accepted the statement were higher amongst males (31.7%) than

females (20.6%). The unsure were 22.9% males and 14.8% females. Differences of perception by gender can be seen here, the females disagreeing with the statement more than the males.

Table 5.81: Q9: The perceptions of vocational and technical education (VTE):V20: Programmes designed for VTE are of high standard so only suitable for intelligent students. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	3770.0	0.0402

The Mann-Whitney U Test in table 5.81 indicates that the differences in responses of the male and female students is statistically significant ($P<0.05$) on all the categories of the rating scale (table 5.80).

Table 5.82: Q9: The perceptions of vocational and technical education (VTE):V22: Programmes of VTE are suitable for less intelligent people. Cross-tabulation, frequency and percentage counts by Institute.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	12	23	17	16	1	69
% of total	14.4	33.3	24.6	23.2	1.4	30.8
Inst (2)	8	21	18	20	4	71
% of total	11.3	29.6	25.4	28.2	5.6	31.7
Inst (3)	19	27	17	21		84
% of total	22.6	32.1	20.2	25.0		37.5
Column Total	39 17.4	71 31.7	52 23.2	57 25.4	5 2.2	224 100.0

Table 5.82 shows that there was higher disagreement than agreement (49.1%) in the three institutions; those who strongly agreed or agreed were 27.6%, unsure were 23.2% which is not a major difference from those who strongly agreed or agreed. In Inst 3, 54.7% of the students strongly disagreed or disagreed, Inst 2 recorded the

lowest figure of disagreement (40.9%) with Inst 1 registering 47.7%. Inst 2 had more students who strongly agreed or agreed with the statement (33.8%) than Inst 1 (24.6%) and Inst 3 (25.0%). The unsure students from Inst 2 were 25.4%, compared to Inst 1 (24.6%) and Inst 3 (20.2%). Again one can observe that, though there is some agreement, nevertheless the statement is generally not held to be the case. Some institutions seem to attract more criticism here than others, particularly Inst 3.

Table 5.83: Q9: The perceptions of vocational and technical education (VTE):V22: Programmes of VTE are suitable for less intelligent people. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	4.6813	0.0963

The Kruskal-Wallis Test in table 5.83 indicated that the difference in the responses of the students in the three institutes was statistically non-significant (P>0.05).

Table 5.84: Q9: The perceptions of vocational and technical education (VTE):V23: Despite all the odds surrounding VTE I am interested in studying it. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	10	17	18	86	39	170
% of total	5.9	10.0	10.6	50.6	22.9	75.9
Female		5	5	29	15	54
% of total		9.3	9.3	53.7	27.8	24.1
Column Total	10 4.5	22 9.8	23 10.3	115 51.3	54 24.1	224 100.0

The majority of the respondents in table 5.84 were in favour of the statement (strongly agreed or agreed) (75.4%). Few rejected the statement (14.3%) and those who were unsure were 10.3%. The cross-tabulation shows that more female students strongly supported the statement (80.5%) compared to the males (73.5%). The unsure comprised 10.6% male and 9.3% female students.

Table 5.85: Q9: The perceptions of vocational and technical education (VTE):V23: Despite all the odds surrounding VTE I am interested in studying it. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4098.0	0.1980

The Mann-Whitney U Test in table 5.85 indicates that the difference in the responses of the male and female students is statistically non-significant (P>0.05). Here again one can see the high motivation of students entering VTE, regardles of gender.

Table 5.86: Q9: The perceptions of vocational and technical education (VTE):V24: The state needs Qatar graduates with VTE but the present numbers failed to meet the country's demands. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	3	13	26	65	63	170
% of total	1.8	7.6	15.3	38.2	37.1	75.9
Female		2	10	28	14	54
% of total		3.7	18.5	51.9	25.9	24.1
Column Total	3 1.3	15 6.7	36 16.1	93 41.5	77 34.4	224 100.0

Table 5.86 shows that 75.9% of the respondents strongly agreed or agreed with the statement compared to those who rejected it (7.9%) and 16.1% who were undecided. The cross-tabulation shows that more female students accepted the statement (70.4%) than male students (53.5%). Also more male students rejected the statement (9.4%) than female students (3.7%). The unsure were 18.5% of the females and 15.3% of the males. One can detect that students recognised the need to create more jobs in this area.

Table 5.87: Q9: The perceptions of vocational and technical education (VTE):V24: The state needs Qatar graduates with VTE but the present numbers failed to meet the country's demands. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4334.0	0.5115

There is no statistically significant difference between the responses of the male and female students (P>0.05).There seemed support for the statement.

Table 5.88: Q9: The perceptions of vocational and technical education (VTE):V25: I am not interested in vocational and technical education simply because I do not like manual work. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	71	63	17	13	6	170
% of total	41.8	37.1	10.0	7.6	3.5	75.9
Female	26	20	6	1	1	54
% of total	48.1	37.0	11.1	1.9	1.9	24.1
Column Total	97 43.3	83 37.1	23 10.3	14 6.3	7 3.1	224 100.0

Table 5.88 shows that 78.9% of the male students did not agree with the statement, and a higher percentage obtained in the female students (85.1%). Those males who supported the statement were 11.1%, with females 3.8%. The unsure were 10.0% of the male students and 11.1% of the female students. This supports the view from previous tables that students regard VTE very positively.

Table 5.89: Q9: The perceptions of vocational and technical education (VTE):V25: I am not interested in vocational and technical education simply because I do not like manual work. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4152.5	0.2573

The Mann-Whitney U Test in table 5.89 shows that the difference between the responses of the male and female students is statistically non-significant (P>0.05), again indicating a shared perception.

Table 5.90: Q9: The perceptions of vocational and technical education (VTE):V26: Qualifications given to graduates of VTE do not qualify them for higher education in the future. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	30	24	26	49	51	170
% of total	11.3	14.1	15.3	28.8	30.0	75.9
Female	5	23	8	12	6	54
% of total	9.3	42.6	14.8	22.2	11.1	24.1
Column Total	25 11.2	47 21.0	34 15.2	61 27.2	57 25.4	224 100.0

Table 5.90 reveals that the majority of students (52.6%) strongly agreed or agreed with the statement, while those who rejected it were 32.2% and the unsure were 15.2%. The cross-tabulation also shows that of the male students 58.8% supported the statement compared to 33.3% of the female students. Conversely, there were more female students (51.9%) who did not agree with the statement than males (25.4%). If we add the unsure students to those who did not agree with the statement they total 47.4%, less than those who accepted the statement.

Table 5.91: Q9: The perceptions of vocational and technical education (VTE):V26: Qualifications given to graduates of VTE do not qualify them for higher education in the future. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	3243.0	0.009

The Mann-Whitney U Test in table 5.91 reveals that there is a highly statistically significant difference between the responses of male and female students ($P<0.01$), particularly on the categories 'disagree' and 'strongly agree' (table 5.90). Females believe that VTE gives access to higher education while males tend to believe that it does not.

Table 5.92: Q9: The perceptions of vocational and technical education (VTE): V1: The objectives of VTE are clear enough to students. Cross-tabulation and frequency percentages counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	4	17	27	83	39	170
% of total	2.4	10.0	15.9	48.8	22.9	75.9
Female	1	10	4	29	13	54
% of total	1.9	18.5	7.4	48.1	24.1	24.1
Column Total	5 2.2	27 112.1	31 13.8	109 48.7	52 23.2	224 100.0

Table 5.92 shows that 71.9% strongly agreed or agreed with the statement, while 13.8% were unsure and 14.3% strongly disagreed or disagreed with the statement. The percentage of female students who strongly agreed or agreed is higher than for the male students (72.2% and 71.7%). From the same table, it can be observed that even if we combine those who were unsure with those who disagreed and strongly disagreed (28.1%), the total of those who strongly agreed and who agreed remains higher

(71.9%). The total of female students who strongly disagreed and who disagreed remains higher than the same total for male students (20.4% and 12.4% respectively).

Table 5.93: Q9: The perceptions of vocational and technical education (VTE):V1: Objectives of VTE are clear enough to students. Results of the Mann-Whitney U Test to determine the of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4548.5	0.9145

The Mann-Whitney U Test in table 5.93 reveals a non-significant difference between the opinion of males and females (P>0.05).

Additionally, reviewing tables 5.92 and 5.93 it can be observed that the 'strongly disagree' or 'disagree' frequencies in columns 1 and 2 indicate a very limited rejection of the statement by female students (20.4%) and male students (12.4%). Regardless of the initially greater agreement and the statistical insignificance between male and female responses, still we have few students who strongly disagreed or just disagreed with the statement.

Table 5.94: Q9V8: The institute building in which I study serves its purpose very well. Cross-tabulation, frequency and percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	27	31	30	64	18	170
% of total	15.9	18.2	17.6	37.6	10.6	75.9
Female	11	11	5	23	4	54
% of total	20.4	20.4	9.3	42.6	7.4	24.1
Column Total	38 17.8	42 18.8	35 15.6	87 38.8	22 9.8	224 100.0

Table 5.94 gives information about cross-tabulation, frequency and percentage counts. It shows that 36.6% strongly disagreed or simple disagreed compared to 48.6% who

strongly agreed or agreed, while those who were not decided were 15.6%. If we combine the number of unsure with those who rejected the statement the percentage becomes 52.2%, which is higher than that of those who accepted the statement. The percentage of female students who rejected the statement (40.8%) is higher than of male students (34.1%). There were also more female students who agreed with the statement (50.0%) compared to male students (48.2%). Of the unsure, 17.6% were male and 9.3% were female. One can observe that the majority of VTE students believed that the institution buildings do not serve their purpose very well.

Table 5.95: Q9V8: The institute building in which I study serves the purpose very well. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4385.0	0.6075

The Mann-Whitney U Test shown in table 5.95 reveals that the difference in the responses of male and female students is statistically not significant (P>0.05).

Table 5.96: Q9: The perceptions of vocational and technical education (VTE):V9: The tools and machine used in the institute serve the purpose of educational expectations. Cross-tabulation, frequency, percentage counts by gender.

Variables (Gender)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	11	18	22	90	29	170
% of total	6.5	10.6	12.9	52.9	17.1	75.9
Female	2	7	9	28	8	54
% of total	3.7	13.0	16.7	51.9	14.8	24.1
Column Total	13 5.8	25 11.2	31 13.8	118 52.7	37 16.5	224 100.0

Table 5.96 shows that 71.2% strongly agreed or agreed with the statement. Those who disagreed or strongly disagreed were 17.0%; this shows a major difference between agreement and disagreement. The unsure were 13.8%. The cross-tabulation indicates

that the percentage of students who were unsure was 12.9% male, which is less than the female percentage (16.7%). Another point shown by the table is that 70.0% of the male students accepted the statement (agreed or strongly agreed) which is more than the female students (66.7%). There were more males who rejected the statement (17.1%) than female students (16.7%). When we combine the unsure with those who rejected the statement, the percentage is still lower that those who accepted it.

Table 5.97: Q9: The perceptions of vocational and technical education (VTE):V9: The tools and machines used in the institute serve the purpose of educational expectations. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4443.0	0.6999

The Mann-Whitney U Test reveals in table 5.97 that the difference between male and female students' responses to the statement is not statistically significant (P>0.05). Despite that, there is a high percentage of male and female students who accepted the statement (71.2%) (table 5.97). However, there is still room for improvement here.

Table 5.98: Q9: The perceptions of vocational and technical education (VTE):V11: Both teachers and trainers are of the best standards. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	3	11	22	94	40	170
% of total	1.8	6.5	12.9	55.3	23.5	75.9
Female	1	2	7	35	9	54
% of total	1.9	3.7	13.0	64.8	16.7	24.1
Column Total	4 1.8	13 5.8	29 12.9	129 57.6	49 21.9	224 100.0

According to Table 5.98 the vast majority of students' responses agreed with the statement (79.5%) compared to those who rejected it (7.6%) and those who were

unsure (12.9%). The cross-tabulation in table 5.98 shows that of the female student population 81.5% accepted the statement (strongly agreed or agreed) and 78.8% of students accepted it. As for those who did not accept the statement (strongly disagreed or disagreed) the male percentage (8.3%) was higher than the female percentage (5.6%). The unsure students were 12.9% of the male and 13.0% of the female students.

Table 5.99: Q9: The perceptions of vocational and technical education (VTE):V11: Both teachers and trainers are of the best standards. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4448.5	0.7023

The Mann-Whitney U Test in table 5.99 above shows that the difference in responses of the male and female students was statistically non-significant (P>0.05).

Table 5.100: Q9: The perceptions of vocational and technical education (VTE):V16: There is lack of respect for the VTE institution. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	24	36	25	50	35	170
% of total	14.1	21.2	14.7	29.4	20.6	75.9
Female	10	13	8	17	6	54
% of total	18.5	24.1	14.8	31.5	11.1	24.1
Column Total	34 15.2	49 21.9	33 14.7	67 29.9	41 18.3	224 100.0

Table 5.100 shows that 37.1% rejected the statement and those who supported it were 48.2% and the unsure were 14.7%. The crosstabulation indicates that there was more disagreement among the female (42.6%) than the male students (35.3%). More male (50.0%) than female students (42.6%) supported the statement. The unsure were more or less the same among the male (14.7%) and female students (14.8%). There is

some indication here of acceptance of the statement; this fits uncomfortably with some of the previous data in table 5.73.

Table 5.101: Q9: The perceptions of vocational and technical education (VTE):V16: There is lack of respect for VTE institution. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U Value	Significance
Male Female	4031.0	0.1668

The Mann-Whitney U Test in table 5.101 shows that the difference between the responses of male and female students is statistically non-significant (P>0.05).

Table 5.102: Q9: The perceptions of vocational and technical education (VTE):V25: I am not interested in VTE simply because I do not like manual work. Cross-tabulation, frequency counts by institution.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Inst (1)	40	19	6	2	2	69
% of total	58.0	27.5	8.7	2.9	2.9	30.8
Inst (2)	18	31	11	9	2	71
% of total	25.4	43.7	15.5	12.7	2.8	31.7
Inst (3)	38	33	6	3	3	84
% of total	46.4	39.3	7.1	3.6	3.6	37.5
Column Total	97 43.3	83 37.1	23 10.3	14 6.3	7 3.1	224 100.0

Table 5.102 shows that 80.4% did not agree with the statement while 9.4% agreed and 10.3% were unsure. Further, the number of respondents who strongly disagreed and disagreed is not markedly different in Inst (1) and Inst (3) (85.5% and 85.7%, respectively) compared to students from Inst (2) (69.1%).

Table 5.103: Q9: The perceptions of vocational and technical education (VTE):V25: I am not interested in VTE simply because I do not like manual work. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi Square (Corrected for ties)	Significance
Inst (1) Inst (2) Inst (3)	16.6308	0.0002

The Kruskal-Wallis Test in table 5.103 reveals that there is a significant difference in the response of the students from the three institutes ($P<0.001$). It appears from table 5.102 that Inst 2 shows a marked difference from the others, which is perhaps understandable as Inst 2 tended not to deal with manual jobs.

Table 5.104: Q10: The role of women in the field of VTE: V1: Enabling women to participate in VTE may help increase the work force. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	48	39	30	33	20	17.0
% of total	28.7	22.9	17.7	19.4	11.8	75.9
Female		1	2	26	25	54
% of total		1.9	3.7	48.1	46.3	24.1
Column Total	48 21.4	40 17.9	32 14.3	59 26.3	45 20.1	224 100.0

Table 5.104 reveals that the majority of students (46.4%) strongly agreed or agreed that "enabling women to participate in VTE may help increase the work force" while 39% strongly disagreed or disagreed with the statement; the same table puts the number of unsure at 14.3%. The crosstabulation shows that female students who strongly agreed or agreed with the statement were 94.5% compared to 31.2% of male students. There were less female students who strongly disagreed or disagreed (1.9%) than male students (51.1%). Those who were unsure from males were 17.0% and only 3.7% of female students. It could be concluded from the result of this table that female

students support the enabling of women to participate in the field of VTE far more than males.

Table 5.105: Q10: The role of women in the field of VTE: V1: Enabling women to participate in VTE may help increase the work force. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	1437.5	0.0000

The Mann-Whitney U Test in table 5.105 indicates that the difference between male and female students' responses is statistically highly significant ($P<0.01$) on all categories of the rating scale.

Table 5.106: Q10: The role of women in the field of VTE: V2: Women are naturally incapable of performing such jobs. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	28	26	28	46	52	17.0
% of total	10.6	15.3	16.5	27.1	30.6	75.9
Female	17	26	5	4	2	54
% of total	31.5	48.1	9.3	7.4	3.7	24.1
Column Total	35 15.6	52 23.2	33 14.7	50 22.3	54 24.2	224 100.0

Table 5.106 shows that 38.8% strongly disagreed or disagreed with the statement while more students strongly agreed or agreed with the statement (46.4%). The unsure about the statement were 14.7%. If we combine the unsure students with those who strongly disagreed or disagreed the percentage will be 53.5%, which is more than those who strongly agreed or agreed. Crosstabulation reveals that those who strongly agreed or agreed with the statement is higher in male students (57.7%) than female students (11.1%), but there are higher numbers of female students who strongly disagreed or disagreed with the statement (79.6%) compared to male students (25.9%); 16.5% of

male students and 9.3% of female students did not make up their minds about the statement. From this table it can be inferred that male students believe that women are naturally incapable of performing VTE jobs.

Table 5.107: Q10: The role of women in the field of VTE: V2: Women are naturally incapable of performing such jobs. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	1917.0	0.0000

The Mann-Whitney U Test in table 5.107 indicated that the difference in responses between male and female students is statistically highly significant ($P<0.01$) in all categories of the rating scale.

Table 5.108: Q10: The role of women in the field of VTE: V4: Women must stay at home and look after children. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	17	28	35	44	41	17.0
% of total	10.0	16.5	20.6	28.8	24.1	75.9
Female	24	14	9	6	1	54
% of total	44.4	25.9	16.7	11.1	1.9	24.1
Column Total	41 18.3	42 18.8	44 19.6	55 24.6	42 18.8	224 100.0

Table 5.108 shows that 37.1% strongly disagreed or disagreed with the statement and 19.6% of the students were unsure. An examination of the crosstabulation shows that the figure which represent female students who strongly disagreed or disagreed with the statement that "women must stay at home and look after children" is much higher compared to male students (70.3% and 26.5%), respectively. Conversely, the percentage of male students who strongly agreed or agreed with the statement was 52.9% compared to female students (13.0%). Other points revealed by the table are

that the unsure male students were 20.6% which is more than female students (16.7%); by adding the unsure to those who strongly disagreed or disagreed yields a higher percentage (56.7%) than those who strongly agreed or agreed with the statement. The polarization of opinion by gender seems to be marked here.

Table 5.109: Q10: The role of women in the field of VTE: V4: Women must stay at home and look after children. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	1977.0	0.0000

The Mann-Whitney U Test in table 5.109 suggests that the differences between male and female students' responses is statistically highly significant ($P<0.01$) on all categories of the rating scale.

Table 5.110: Q10: The role of women in the field of VTE: V6: Mixing women with men is unacceptable and hence women should not participate. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	14	30	26	42	58	17.0
% of total	8.2	17.6	15.3	24.7	34.1	75.9
Female	21	24	5	4		54
% of total	38.9	44.4	9.3	7.4		24.1
Column Total	35 15.6	54 24.1	31 13.8	46 20.5	58 25.9	224 100.0

Table 5.110 reveals that out of the 224 student sample, 46.4% strongly agreed or agreed with the statement while 39.7% strongly disagreed or disagreed with it. The unsure were 13.8%. The crosstabulation shows that female students who strongly disagreed or disagreed with the statement were 83.3% compared to male students (25.8%). On the other hand, there were less female students who strongly agreed or agreed with the statement (7.4%) than male students (58.8%). The percentage of

unsure from female students was 9.3% and from the male students 15.3%. Again one can observe a polarization of opinion by gender.

Table 5.111: Q10: The role of women in the field of VTE: V6: Mixing women with men is unacceptable and hence women should not participate. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	1492.0	0.0000

The Mann-Whitney U Test in table 5.111 suggests that the differences between male and female students' responses is statistically highly significant ($P<0.01$) on all categories of the rating scale.

Table 5.112: Q10: The role of women in the field of VTE: V7: Allocation of places for women only may help womens' participation. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	14	13	19	74	50	17.0
% of total	8.2	7.6	11.2	43.5	29.4	75.9
Female	4	6	4	17	23	54
% of total	7.4	11.1	7.4	31.5	42.6	24.1
Column Total	18 8.0	19 8.5	23 10.3	91 40.6	73 32.6	224 100.0

Table 5.112 shows the responses to "whether allocation of places for women only may help womens' participation". Most students (73.2%) strongly agreed or agreed with the statement. Those who strongly disagreed or disagreed with the statement were few (16.5%). 10.3% did not respond to the statement. More points can be revealed from this table: both male and female students strongly agreed or agreed with the statement (72.9%). Those who resisted the statement comprised 15.8% male students and 18.5% female students. The unsure were 11.2% males and 7.4% females.

Table 5.113: Q10: The role of women in the field of VTE: V7: Allocation of places for women only may help womens' participation. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	4137.0	0.2487

Table 5.113 indicates that the difference between male and female students' responses is not statistically significant (P>0.05).

Table 5.114: Q10: The role of women in the field of VTE: V8: Traditions prohibit women from performing such job. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	11	27	22	61	49	17.0
% of total	6.5	15.9	12.9	35.9	28.8	75.9
Female	5	20	3	17	9	54
% of total	9.3	37.0	5.6	31.5	16.7	24.1
Column Total	16 7.1	47 21.0	25 11.2	78 34.8	58 25.9	224 100.0

Table 5.114 tells us that 60.7% out of 224 students strongly agreed or agreed with the statement, while 28.1% strongly disagreed or disagreed with the statement. Those who were unsure were 11.2%. If we combine the unsure with those who strongly disagreed or disagreed the percentage is 39.3%, which is still lower than those who strongly agreed or agreed with the statement (60.7%). On the other hand, the crosstabulation reveals that the number of male students who supported this statement (64.7%) was higher than that for female students (48.2%). The female students who strongly disagreed or disagreed with the statement were 46.3%, which is more than the male students (22.4%). The unsure were 12.9% males and 5.6% of females.

It can be concluded from the results shown in this table that traditions prohibit women from performing such jobs in Qatar. There is an interesting mixed response here. While

males and females score highly on a measure of agreement there are differences in strong disagreement and disagreement between the genders.

Table 5.115: Q10: The role of women in the field of VTE: V8: Traditions prohibit women from performing such job. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	3512.5	0.0071

Table 5.115 tells us that the difference between the responses of males and females is statistically significant ($P<0.05$) on all categories of the rating scale.

Table 5.116: Q10: The role of women in the field of VTE: V10: Women are not allowed to work in certain areas by religion. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	10	11	24	49	76	17.0
% of total	5.9	6.5	14.1	28.8	44.7	75.9
Female	4	10	8	25	7	54
% of total	7.4	18.5	14.8	46.3	13.0	24.1
Column Total	14 6.3	21 9.4	32 14.3	74 33.0	83 37.1	224 100.0

Table 5.116 shows that 70.1% strongly agreed or agreed, other respondents who strongly disagreed or disagreed were 15.7%. The unsure were 14.3%. The crosstabulation shows that more male students strongly agreed or agreed with the statement than females (73.5% and 59.3%). On the other hand, those who strongly disagreed or disagreed with the statement were 25.9% of the female students and 12.4% of the males. The unsure were 14.8% from the females and 14.1% from the males.

Table 5.117: Q10: The role of women in the field of VTE: V10: Women are not allowed to work in certain areas by religion. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	3100.5	0.0002

The Mann-Whitney U Test in table 5.117 indicates that the difference between male and female students is statistically highly significant (P<0.001). Both genders recognise the situation though males agree with it far more than females.

Table 5.118: Q10: The role of women in the field of VTE: V11: Womens' participation may help increase the financial resource of the family. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	19	10	40	76	25	17.0
% of total	11.2	5.9	23.5	44.7	14.7	75.9
Female	1	1	3	24	25	54
% of total	1.9	1.9	5.6	44.4	46.3	24.1
Column Total	20 8.9	11 4.9	43 19.2	100 44.6	50 22.3	224 100.0

Table 5.118 reveals that 66.9% of the students strongly agreed or agreed with the statement and those who strongly disagreed or disagreed were 13.8%. The percentage of students who did not make up their minds was 19.2%. The table shows that the percentage of female students who strongly agreed or agreed with the statement that "womens' participation may help increases the financial resource of the family" was higher than that of male students (90.7% and 59.4% respectively). The percentage of those rejected the statement was higher among male students (17.1%) than female students (3.8%). The unsure were 23.5% of the male students and 5.6% of the females.

Table 5.119: Q10: The role of women in the field of VTE: V11: Womens' participation may help increases the financial resource of the family. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	2494.0	0.0000

The Mann-Whitney U Test in table 5.119 reveals that the difference between the responses of male and female students is statistically highly significant ($P<0.01$). Both parties recognise the situation though there is an immense difference in agreement by gender, women agreeing far more strongly then men.

Table 5.120: Q10: The role of women in the field of VTE: V12: The participation of women may help reduce their dependence on foreign workers. Crosstabulation, frequencies and percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row Total
Male	15	32	37	58	28	17.0
% of total	8.8	18.8	21.8	34.1	16.5	75.9
Female		1	2	21	30	54
% of total		1.9	3.7	38.9	55.6	24.1
Column Total	15 6.7	33 14.7	39 17.4	79 35.3	58 25.9	224 100.0

Table 5.120 reveals that 61.2% of the student sample strongly agreed or agreed with the statement, while 21.4% strongly disagreed or disagreed with the statement. Those who were unsure were 17.4%. By combining the unsure with those who opposed the statement, the percentage is 38.8%, which is still lower than those who supported the statement.

The crosstabulation indicates that the female students who supported the statement were more than the male students (94.5% and 50.6%). It could also be mentioned that the percentage of the unsure of the female students (3.7%) was less than that of the

males (21.8%). More male students were against the statement than female students (27.6% and 1.9% respectively).

Table 5.121: Q10: The role of women in the field of VTE: V12: The participation of women may help reduce their dependence on foreign workers. Mann-Whitney U Test by gender.

Variables	U Value	Significance
Male Female	1965.0	0.0000

The Mann-Whitney U Test in table 5.121 shows that the difference between responses of male and female students is statistically highly significant ($P<0.01$) and that there is a general agreement though it is felt significantly more strongly by women.

The use of the Spearman Correlation Statistic

The Spearman Correlation Coefficient was calculated to address a number of research questions of the study (chapters 1.3, 2.3, 3.4, 4.6) concerning the perceptions of vocational and technical education. The Spearman Correlation Coefficient was calculated in order to identify the degree of association between several ordinal variables of this study. From the full set of correlations those presented in Table (5.122) were selected as they served the research questions. Of particular interest for the research were the correlations between the variables of Q9 - "The Perception of VTE". These are presented in Table 5.122.

These items serve the following research objectives:

(1) To assess the effectiveness of the institutions of VTE in the light of the following factors:

(a) The adequacy of the clarity of the objectives of VTE for the students.

(b) The importance of VTE for developing industriy and the economy of the country.

(c) The adequacy of the buildings and tools for the objective of VTE.

(d) Assessment of the efficiency of the faculty in charge of teaching and training in the institutes.

Table 5.122: The Spearman correlation coefficient showing the degree of association between the different various items of Q9: "The perceptions of VTE". N=224.

Correlated items	Items description	Correlation	Significance
(1) page 468 with (2) page 468	(1) Objectives of VTE are clear enough to students. (2) The teacher or trainer begins by clarifying the objectives of the course to all students.	0.4910	0.0000
(4) page 468 with (13) page 468	(4) The government encourages students to join VTE. (13) Industrial education for Qataris is vital at this stage of booming industrial development in Qatar.	0.3411	0.0000
(8) page 468 with (9) page 469	(8) The institute building in which I study serve its purpose very well. (9) The tools and the machines used in the institute serve the purpose of education expectations.	0.4800	0.0000
(11) page 469 with (12) page 469	(11) Both teachers and trainers are of the best standards. (12) Both management and organisation are very progressive.	0.4813	0.0000
(15) page 469 with (16) page 469	(15) VTE enjoys less prestige than academic schools. (16) There is lack of respect for VTE institutions.	0.3861	0.0000
(14) page 469 with (18) page 469	(14) VTE plays a key role in resolving the lack of Qatari technical skilled labour. (18) VTE institutions are very important for a modern state.	0.3861	0.0000
(19) page 469 with (23) page 470	(19) Serving the country through joining VTE is a great honour for me. (23) Despite all the odds surrounding VTE I am interested in studying it.	0.1540	0.021
(24) page 470 with (25) page 470	(24) The state needs Qatari graduates with VTE but the present numbers failed to meet the country's demands. (25) I am not interested in VTE simply because I do not like manual work.	0.0767	0.233

Spearman Correlation between students of VTE:

One can observe very highly significant correlation coefficient ($p<0.0001$) for the first six pairs of variables of table 5.122 and a significant correlation ($p<0.05$) between variables 19 and 23. Only one pair of variables (24 and 25) did not correlate significantly ($p>0.05$).

The result of the correlation coefficient in table (5.122) indicated clearly that:

1- The students were aware of the importance of VTE for industrial development and its benefits to the country.

2- The students received clear explanation about their VTE programmes.

3- Buildings, tools and machines that were used in the VTE institution meet the expectations of students.

4- Students did not believe that VTE enjoys less prestige than academic education; also they believed that VTE had a lack of respect in society.

5- Students believed that the numbers of VTE students were not adequate to meet the Government's demands for technicians, despite the Government's support for VTE.

6- Teaching standards for VTE were high.

7- VTE students were motivated tojoin VTE.

Summary of Findings of the Students' Questionnaire

The major findings based on the data collected and analysed in this study are as follows:

(1) A majority of the students (75.9%) indicated that their fathers did not resent their joining VTE.

(2) A total of 47.8% revealed that they had no guidance or counselling at their previous school.

(3) Almost half of the students (49.0%) had not discussed at all the matter of their wish to join VTE with the counsellor in their previous school.

(4) A majority of 83.5% wished to join VTE a lot or very great deal.

(5) 57.2% of the students indicated that they joined VTE to reduce the dependence on foreign workers.

(6) A majority of 79.0% revealed that they joined VTE to reduce the dependence on foreign workers.

(7) 90.6% of the students agreed that joining VTE would provide them with practical experience for the future.

(8) A total of 70.6% intended to work in the future in their current specialisation.

(9) 53.6% revealed that practical training in the institutes was of the highest standard.

(10) Half of the students believed that VTE enjoyed less prestige than academic school.

(11) 48.2% of the students believed that there was a lack of respect for VTE institutes.

(12) An overwhelming majority (93.3%) revealed that serving the country through joining VTE was a great honour for them.

(13) A majority (75.4%) indicated that with all the problems surrounding VTE nevertheless they were interested in studying it.

(14) A total of 52.6% revealed that qualifications given to graduates of VTE did not qualify them for higher education in the future.

(15) 46.4% of the students believed that enabling women to participate in VTE might help to increase the work force.

(16) 46.4% of the students believed that women were naturally incapable of performing vocational jobs.

(17) A total of 46.4% revealed that mixing women with men was unacceptable and hence women should not take part in VTE.

(18) Most students (73.2%) indicated that allocation of places for women only might help women's participation.

(19) 60.7% believed that traditions prohibited women from performing vocational jobs.

(20) A majority of the students (66.9%) believed that women's participation may help increase the financial resource of the family.

(21) A total of 61.2% of the students believe that the participation of women would help to reduce the country's dependence on foreign workers.

Summary of the Major Findings of Nominal Variables: Gender, Family Income and Institute

The major findings based on the data collected and analysed revealed to the researcher the following findings:

A: Gender:

1. Almost 72.3% discussed with their father the matter of joining VTE, however, more male students indicated that than female students.
2. 75.9% of both male and female students felt that their fathers did not resent their joining VTE.
3. Nearly half of the male and female students indicated that they did not at all have counselling in their previous school. More female students believed that they had no counselling in their previous school than male students.
4. Both males and females scored fairly highly on their wish or motivation to join VTE. The male students were more highly motivated to enrol to VTE than female students.

5. 86.6% of the total sample believed that their current speciality was attributed to personal interest. The majority of female students supported this finding more than the males.

6. More than half of the respondents disagreed that their current speciality was attributed to the overdemand in some field.

7. The results indicated that current speciality was attributed to the government's demands for certain specialisations. All responses presented a positive attitude. The results also indicated that there was higher agreement among females than males.

8. A majority of students (84.4%) indicated that they disagreed that their current speciality was attributed to hesitancy in making a choice. Fewer female students disagreed with the finding than males.

9. Almost half of the students disagreed that their current speciality was attributed to the criteria which assessed their abilities, more especially among females than males.

10. More male students than females had failed one section of their study.

11. More than half of the students felt that the best method to gain knowledge in VTE institutions was by studying through formal classroom work.

12. Almost two thirds of the students indicated that the best method to gain knowledge in VTE institutions was through workshops and laboratories.

13. A majority of the students agreed that they intended to work in the future in their current specialisation. Fewer male students than females were in favour of this finding.

14. About two thirds of the students agreed with the statement that the teacher or trainer clarified the objectives of the courses to all students, more especially among the male students than the females.

15. A total of 73.7% of the students agreed that the government encouraged students to join VTE. Male students showed limited agreement compared to the responses of female students.

16. About one third of the students rejected the statement that the practical training of the institutes was of the highest standards. More male students did not fully accept the statement than female students.

17. Almost two thirds of the male and female students believed that the standard of general education in the institute served the purpose, especially among female students.

18. More than half of the students agreed that both management and organisation were very progressive.

19. A majority of the students (92.8%) strongly believed that VTE played a key role in resolving the lack of technically skilled labour in Qatar.

20. Almost half of the students believed that VTE enjoys less prestige than academic schools, especially among the male students.

21. A majority of the students (93.3%) strongly agreed that serving the country through joining VTE was a great honour for them.

22. Almost half of the students did not fully accept that programmes designed for VTE were of the highest standards and they were only suited for intelligent students.

23. Two thirds of the students supported the statement which said despite all the problems surrounding VTE they were interested in studying, especially the female students.

24. 75.9% of the students accepted that the state needed Qatari graduates with VTE but the present number failed to meet the country's demands. More female students accepted the statement than males.

25. A majority of the students accepted manual work, especially among female students than males, perhaps because female students have less chance to participate in the work force than males.

26. A majority of the students indicated that the qualification given to graduates of VTE prevents students from entering higher education.

27. Almost one third of the students believed that the institute building in which they studied did not serve its purpose very well, especially males.

28. The majority of the students accepted that the tools and machines in the institute serve the purpose of educational expectations. More females accepted the statement than males.

29. Almost two thirds of the students indicated that the teachers and trainers were of the highest standards.

30. A majority of the students agreed that there was lack of respect for the VTE institution. The result shows that more support for this came from male students and more disagreement from female students.

31. Almost half of the students accepted that enabling women to participate in VTE may help to increase the work force. The result shows that a higher percentage of male students disagreed compared to female students, who strongly agreed.

32. Almost half of the students, especially males, believed that women are naturally incapable of performing such jobs, while the female students strongly disagreed.

33. Male students felt that women should stay at home and look after children while female students strongly disagreed with the statement.

34. Males believed strongly that mixing women with men was unacceptable and hence women should not participate in vocational occupation, while female students disagreed strongly with this view.

35. Both male and female students accepted that allocation of places for women might help women's participation in vocational occupations.

36. Male students believed that traditions prohibited women from performing vocational jobs, while female students opposed the statement.

37. A majority of both male and female students believed that women are not to be allowed to work in certain areas because of religion.

38. Male and female students accepted that women's participation may help to increase the financial resources of the family.

39. Great support came from from female students that participation of women might help to reduce the country's dependence on foreign workers, while little support for this came from male students.

B: Family Income:

1. Almost half of the students disagreed that their joining VTE was because of the need for money. The strongest disagreement was among the medium income group compared to low income group, which scored the lowest.

2. Students from the low income group disagreed with the view that joining VTE was because the general academic curriculum in schools was difficult. One third of all family income groups supported this finding.

3. A majority of students from all family income groups agreed strongly that joining VTE was because of their desire to reduce the dependence on foreign workers, especially among the low family income group.

4. Almost a third of students from all family income groups agreed strongly that their joining VTE was to secure a job after graduation; students from the low income group agreed with this more strongly in comparison to other groups.

5. A majority of students from all family income groups resisted the view that they joined VTE because of their failure in general academic schools.

6. Students from all family income groups agreed strongly that their joining VTE was because it enabled them to gain practical experience for future employment.

C: Institutes:

1. Students from all institutes agreed that they received vocational guidelines from the vocational counsellor at their institute now.
2. Almost one third of the students from all institutes disagreed with the view that the institution building in which they studied served the purpose very well.
3. Students from all institutes believed that the tools and machines in their institutes served the purpose, especially students from Inst (2).
4. A majority of the students in all institutions agreed strongly that both teachers and trainers were of the best standards.
5. Almost half of the students from all institutes felt that there was a lack of respect for VTE institutes.
6. A majority of the students from all institutes agreed strongly that VTE institutions were very important for a modern state.
7. Almost half of the students from all institutes disagreed strongly that VTE programmes were suitable only for less intelligent students.
8. A majority of the students from all institutes strongly disagreed with the view that they were not interested in VTE simply because of the manual work.

In view of the findings of gender, family income and institutes, one can observe the following points:

1. There were no significant differences between gender, male and female students except in the area of the role of women in VTE.
2. All nominal variables strongly agreed that there is a lack of respect in society for VTE.
3. There was little influence by fathers on their children to choose a particular education.
4. There was no greater effect of family income or father's occupation and father's level of education in enrolling for VTE.

5. One of the most important findings is that the students had no information about VTE programmes.
6. The results of this study also indicated that there were no special programmes for guidance and counselling services for VTE in their previous elementary school.
7. The study shows that there is an important and effective role for VTE in the State of Qatar industry.
8. The study found that all the respondents were very committed to following VTE.
9. The results indicated that all students, regardless of gender, family income group and institute, had positive attitudes towards VTE and manual occupations.
10. High percentage of students disagreed that the buildings, tools and machines are all suitable for serving the purpose of education.
11. The results revealed that the numbers of VTE students are not adequate to meet the country's demands for skilled labour.
12. There was a significant difference between male and female students towards the participation of women in VTE. Females supported the participation of women while men were against this.
13. The results revealed that the opportunity for a VTE diploma does not encourage students to pursue further education.
14. The results showed that the male and female students felt that VTE qualifications could give them good experience for future occupations.
15. The results revealed that money had very little influence on whether male and female students joined VTE.

5.4 The Staff Questionnaire

This section of the study analyses the data concerning issues in vocational and technical education programmes in the state of Qatar which was obtained from the staff questionnaires.

Table 5.123: Distribution of staff of VTE with regard to gender, nationality, qualifications.

Variables	Value	Frequency	Percentage
Gender	Male	100	82.6
	Female	21	17.4
Nationality	Qatari	35	28.9
	Gulf Cooperation Council Countries	1	0.8
	Palestinian	10	8.3
	Egyptian	44	36.4
	Sudanese	6	5.0
	Jordanian	16	13.2
	Syrian	2	1.7
	Tunisian	6	5.0
	Lebanese	1	0.8
Qualification	Secondary Certificate	18	14.9
	Diploma Certificate	18	14.9
	B.A.	58	47.9
	M.A.	23	19.0
	Ph.D.	4	3.3

One can observe the high representation of male staff compared to female staff, due to the lack of female emloyed in VTE institutions. Also high representation of staff with the B.A. qualification in the sample. There were 44 Egyptian VTE staff from different

VTE institutions, 35 Qatari, 16 Jordanians, 10 Palestinians, 6 Sudanese, 6 Tunisians, 2 Syrians, 1 G.C.C. Country, 1 Lebanese giving a total of 121 (see table 5.123).

Table 5.124 : Distribution of staff in different VTE institutions:

Variables	Value	Frequency	Percentage
Institutions	Industrial secondary school	30	24.8
	Regional Training Center	25	20.7
	Commercial school	16	13.2
	Qatar General Petroleum Corporation (Training Center)	15	12.4
	Nursing Institute	21	17.4
	Health Inspection Institute	3	2.5
	Technological College	11	9.1

One can observe that there are many VTE staff employed in industrial secondary school than otheir school.

Table 5.125: Distribution of VTE staff with regard to the number of training courses attended, in-house courses, overseas courses and total courses. N:121

Variables	Value Number of courses	Frequency	Percentage
In-house courses	0	43	35.5
	1	26	21.5
	2	19	15.7
	3	14	11.6
	4	8	6.6
	5	6	5.0
	6	3	2.5
	7	1	0.8
	8	1	0.8
Overseas courses	0	65	53.7
	1	19	15.7
	2	18	14.7
	3	10	8.3
	4	4	3.3
	5	2	1.7
	6	2	1.7
	9	1	0.8
Total courses attended	0	108	89.3
	1	45	37.2
	2	37	30.6
	3	24	19.8
	4	12	9.9
	5	8	6.6
	6	5	4.1
	7	1	0.8
	8	1	0.8
	9	1	0.8

In Table 5.125 one can observe the high representation of staff who did not attend in-house courses - one-third (35.5%) - and those who attended only one course (26 staff or 21.5%). The table shows that 65 staff did not attend any overseas courses, 19 attending one course. The highest representation of staff was of those who attended no in-house or overseas course - 108 in all (89.3%).

Table 5.126: Distribution of VTE staff with regard to specialisation, administration experience, technical training experience and teaching experience. N:121

Variables	Value	Frequencies	Percentage
Specialisation	Administrators	20	16.5
	Technical Trainers	53	43.8
	Teachers	48	39.7
Administration Experience	Admin. Exp. 0	102	84.3
	Admin Exp. 1-5 years	5	4.1
	Admin Exp. 6-10 years	4	3.3
	Admin Exp. 11-15 years	2	1.7
	Admin Exp. 16-20 years	6	5.0
	Admin Exp. 21-25 years	1	0.8
	Admin Exp. 26-30 years	1	0.8
Technical Training Experience	Tech. T. Exp. 0	67	55.4
	Tech. T. Exp. 1-5 years	9	7.4
	Tech. T. Exp. 6-10 years	11	9.1
	Tech. T. Exp. 11-15 years	14	11.6
	Tech. T. Exp. 16-20 years	7	5.8
	Tech. T. Exp. 21-25 years	8	6.6
	Tech. T. Exp. 26-30 years	4	3.3
	Tech. T. Exp. 31-36 years	1	0.8
Teaching Experience	Teach. Exp. 0	73	60.3
	Teach. Exp. 1-5 years	3	2.5
	Teach. Exp. 6-10 years	7	5.8
	Teach. Exp. 11-15 years	5	4.1
	Teach. Exp. 16-20 years	10	8.3
	Teach. Exp. 21-25 years	13	10.7
	Teach. Exp. 26-30 years	6	5.0
	Teach. Exp. 31-36 years	4	3.3

Table 5.126 shows that the highest number of specialists is that of technical trainers, then teachers, then administrators. The same table shows the highest representation of staff who have no administration experience, 5 had only 1-5 years of administration

experience and 6 had between 16-20 years of administration experience. It also shows that the highest representation of those who had experience of administration is of technical trainers (67), 14 staff had experience of administration of between 11-15 years, and 11 had experience of 6-10 years. It also shows that 73 staff had no experience in teaching and 13 had between 21-25 years experience, with 10 staff having between 16-20 years experience.

Table 5.127: Distributions with regard to staff of VTE in different VTE Institutions, previous jobs, previous experience and how much they knew about the programmes offered by VTE Institutions.

Variables	Value	Frequencies	Percentage
Institutions	Industrial school	30	24.8
	Regional Training Centre	25	20.7
	Commercial school	16	13.2
	Qatar General Petroleum Corporation Training Centre	15	12.4
	Nursing Institutions	21	17.4
	Health Inspection Institutions	3	2.5
	Technological College	11	9.1
Previous jobs	Yes	39	32.2
	No	82	67.8
Previous experience (years)	Prev. Exp. 1-5	28	23.1
	Prev. Exp. 6-10	7	5.8
	Prev. Exp. 11-15	1	0.8
	Prev. Exp. 15+	3	2.5
How well do you know about the programmes offered by VTE Institutions?	Very well known	33	27.3
	Well known	53	43.8
	Somewhat known	25	20.7
	Not known	10	8.3

Table 5.127 shows that the greatest number of staff is in order, in industrial schools, regional training centres and nursing institutions and a lower number of staff in the other four institutions. It also shows that very many staff did not have any previous job experience in the factory or any business corporation before joining the VTE institution. Those who had had previous job experience had had between 1-5 years experience and only 7 had between 6-10 years experience. The same table shows the high incidence of those who knew about the programmes offered by VTE institutions and the very low incidence of staff who did not know about the programmes.

5.4.1 Analysis of responses to open-ended questions

Two open-ended questions were asked of VTE staff to find out their opinions and views on the shortage of enrolment of students in VTE schools and what improvements and changes could be made to VTE in Qatar. The replies to these questions were short and the same responses were given by many staff. Sixty VTE staff (50%) responded to these questions as follows:

Question (1)

Why do you think there is a shortage of enrolment of students in VTE?

1. 42 (35%) respondents indicated that it was because of the low status of VTE due to its manual nature.
2. 30 (25%) respondents indicated that it was because most families did not encourage their children to enrol for this kind of education because they believed it was only suitable for the poor and disadvantaged.
3. 16 (13%) respondents said that it was because students could not continue further education after graduation from VTE institutions.
4. 25 (21%) respondents indicated that it was because there was a lack of information in intermediate and secondary schools about VTE institutions.

5. 46 (38%) respondents believed that it was because there was a lack of career guidance in schools to direct students to this kind of education.
6. 7 (6%) respondents said that many students hesitated to join VTE schools because of low employment prospects after graduation.
7. 38 (31%) respondents believed that Qatari students preferred desk jobs or office jobs to manual jobs.
8. 8 (7%) respondents indicated that it was because there was a lack of financial incentives in VTE.

Question (2)

What, in your view, is the best method of improving or changing society's view of VTE?

Comments to question (2) about how improvement and changes could be made towards VTE in Qatar were as follows:

1. 53 (43%) respondents suggested that the mass media must focus on demonstrating the importance and dignity of manual work and VT occupations in Qatar. All types of media were recommended for use - radio, television, newspapers and magazines.
2. 37 (31%) respondents suggested that financial incentives should be used more effectively to attract students to VTE schools.
3. 29 (24%) respondents suggested that the government should promise good career prospects for graduates from VTE schools to help increase the number of students who enter VTE schools, and encourage parents and families to allow their children to go to VTE institutions.

4. 6 (5%) respondents suggested that a number of people in important positions, e.g. government ministers, religious leaders, should explain the importance of manual work for the future of Qatar and its significance in developing the country in an effort to recruit students to VTE institutions.

5.4.2 Analysis of responses to closed questions

In order to overcome the problems of having very different numbers of males and females as respondents, the reporting of the responses is by percentage as well as by raw scores.

Table 5.128: Q2: The place of technical and vocational education in the education system of the state of Qatar: V1: VTE is given high status in the educational system in the state of Qatar. Cross tabulation, frequency, percentage by gender.

Variables (gender)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	6	14	22	40	18	100
% of total	6.0	14.0	22.0	40.0	18.0	82.6
Female		5	7	7	2	21
% of total		23.8	33.3	33.3	9.5	17.4
Column total	6	19	29	47	20	121
	5.0	15.7	24.0	38.8	16.5	100.0

Table 5.128 shows that the majority of VTE staff (55.3%) either strongly agreed or agreed with the statement whilst 20.7% strongly disagreed or disagreed, and 24% were unsure. If we combine the unsure with those who reject the statement, the percentage is 44.6% which is still less than those who accept it. Male staff were more likely to strongly agree or agree with the statement (58%) than female staff (42.8%). More

females (33.3%) than males (22%) were unsure. Those who rejected the statement were more likely to be females (23.8%) than males (20%).

Table 5.129: Q2: The place of technical and vocational education in the education system of the state of Qatar: V1: VTE is given high status in the educational system in the state of Qatar. Mann-Whitney U test to determine the significance of the distribution of rating scale responses by gender.

Variables	U value	Significance
Male		
Female	898.0	0.2779

The Mann-Whitney U Test in table 5.129 reveals that the difference between the responses of male and female staff to the statement was not statistically significant (P>0.05). One can observe from the above table, therefore, that the majority confirmed the statement.

Table 5.130: Q2: The place of VTE in the education system of the state of Qatar: V3: Officials who are responsible for VTE are aware of the role of VTE for the development of human resources. Cross-tabulation, frequency and percentage by Institute.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Institute (1)	1	2	6	27	19	55
% of total	1.8	3.6	10.9	49.1	34.5	45.5
Institute (2)	1		3	15	12	31
% of total	3.2		9.7	48.4	38.7	25.6
Institute (3)		2	7	12	3	24
% of total		8.3	29.2	50.0	12.5	19.8
Institute (4)		1	1	7	2	11
% of total		9.0	9.0	63.6	18.2	9.1
Column total	2	5	17	61	36	121
	1.2	4.1	14.0	50.4	29.8	100.0

Table 5.130 reveals that 80.2% of VTE staff either strongly agreed or agreed with the statement, and only 5.3% either strongly disagreed or disagreed. Those in favour of the statement (strongly agreed or agreed) were, in order of agreement: INST (2): Commercial school and Qatar General Petroleum Corporation Training Centre (87.1%), INST (1) Industrial School and Regional Training Centre (83.6%), INST (4) Technological College (81.8%) and INST (3) Nursing institutions and Health Inspection institutions (62.5%). Conversely, staff who strongly disagreed or disagreed with the statement were, in order: INST (4) (9.0%), INST (3) (8.3%), INST (1) (5.4%) and INST (2) (3.2%). The same table shows the unsure as 14%. More unsure respondents came from INST (3) than INST (1), INST (2) and INST (4), in fact when

the percentage of INST (1), INST (2) and INST (4) is totalled it is only 0.4% greater than INST (3). It can be concluded therefore that the majority of those questioned agreed with the statement, especially in INST (4), the Technical College.

Table 5.131: Q2: The place of VTE in the education system of the state of Qatar: V3: Officials who are responsible for VTE are aware of the role of VTE for the development of human resources. Kruskal-Wallis Test to determine the significance of rating scale responses by institute.

Variables	Chi square (Corrected for ties)	Significance
Institute (1)		
Institute (2)	8.1539	0.0429
Institute (3)		
Institute (4)		

The Kruskal-Wallis Test in table 5.131 reveals that the difference in the responses of staff from the four institutions is statistically significant ($P<0.05$) particularly on the categories of (unsure) and (strongly agree) (table 5.130), i.e. that the differential responses and wide percentage differences are important to note.

Key:

INST (1) - Industrial School and Regional Training Centre

INST (2) - Commercial School and Qatar General Petroleum Corporation Training Centre.

INST (3) - Nursing Institute and Health Inspection Institute

INST (4) - Technological College

Table 5.132: Q2: The place of VTE in the education system of the state of Qatar: V5: VTE has as much prestige as general academic education in Qatar. Cross tabulation, frequency, percentage counts by specialisation.

Variables (Specialisation)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrator		3	5	7	5	20
% of total		15.0	25.0	35.0	25.0	16.5
Technical Trainer	3	7	6	23	14	53
% of total	5.7	13.2	11.3	43.4	26.4	43.8
Teacher	1	8	7	22	10	48
% of total	2.1	16.7	14.6	45.8	20.8	39.7
Column total	4	18	18	52	29	121
	3.3	14.9	14.9	43.0	24.0	100.0

Table 5.132 indicates that 18.2% of the whole population sample either strongly disagreed or disagreed with the statement and a majority (67%) either strongly agreed or agreed with it. However, 14.9% were unsure. The percentage of technical trainers who strongly agreed or agreed with the statement is higher (69.8%) compared to the teachers (66.6%) and administrators (60%). On the other hand there are more technical trainers (18.9%) who opposed the statement than the other two groups, teachers (18.8%) and administrators (15.0%). Other points from the cross-tabulation are that there are more unsure respondents amongst the administrators (25%) than the other two. The majority of respondents accepted the statement, especially technical trainers.

Table 5.133: Q2: The place of VTE in the education system of the state of Qatar V5: VTE has as much prestige as general academic education in Qatar. The Kruskal-Wallis test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical Trainers	0.2225	0.8947
Teachers		

The Kruskal-Wallis Test in table 5.133 reveals that the difference in the response of the VTE staff is statistically not significant (P>0.05), there is, therefore agreement with the statement.

Table 5.134: Q2: The place of VTE in the education system of the state of Qatar: V6: VTE is more desirable than other academic education. Cross tabulation, frequency, percentage counts by institute.

Variables (Institute)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Institute (1)	4	20	19	7	5	55
% of total	7.3	36.4	34.5	12.7	9.1	45.5
Institute (2)	3	18	7	2	1	31
% of total	9.7	58.1	22.6	6.5	3.2	25.6
Institute (3)		8	7	5	4	24
% of total		33.3	29.2	20.8	16.7	19.8
Institute (4)	2	3	3	2	1	11
% of total	18.2	27.3	27.3	18.2	9.1	9.1
Column total	9	49	36	16	11	121
	7.4	40.5	29.8	13.2	9.1	100.0

Table 5.134 shows that a high proportion of respondents (47.9%) among the 4 institutions disagreed with the statement. There was also a high incidence of unsure (29.8%) and 22.3% either strongly agreed or agreed with the statement. The table reveals that more resistance came from INST (2) (67.8%) than INST (4) (45.5%) and INST (1) (43.7%), with INST (3) recording the lowest score at (33.3%). There were more unsure respondents amongst the staff of INST (1) (34.5%) than INST (3) (29.2%), INST (4) (27.2%) and INST (2) (22.6%). Again, one can observe that a high percentage of the 4 institutions disagreed with the statement and thought that VTE institutions were not as attractive as academic education. A high percentage of responses (47.9%) opposed the statement and there were many who were unsure.

Table 5.135: Q2: The place of VTE in the education system of the state of Qatar: V6: VTE is more desirable than other academic education. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by institution.

Variables	Chi square (Corrected for ties)	Significance
Institute (1)		
Institute (2)	8.8116	0.0319
Institute (3)		
Institute (4)		

The Kruskal-Wallis Test in table 5.135 indicated that the difference in the response of the staff in the 4 institutions was statistically significant ($P<0.05$) particularly on the categories of 'strongly disagree' and 'disagree' (table 5.134), i.e. that the distributions of the differentiated response (67.8% to 22.6%) was important.

Key:

INST (1) - Industrial School and Regional Training Centre

INST (2) - Commercial School and Qatar General Petroleum Corporation Training Centre.

INST (3) - Nursing Institute and Health Inspection Institute

INST (4) - Technological College

Table 5.136: Q3: There are many ways in which the development of VTE can be assisted: V1: Adopting the most advanced methods like interaction between education and world of work. Cross tabulation, frequency, percentage counts by gender.

Variables (gender)	Disagree	Unsure	Agree	Strongly agree	Row total
Male	2	3	34	61	100
% of total	2.0	3.0	34.0	61.0	82.6
Female		2	12	7	21
% of total		9.5	57.1	33.3	17.4
Column total	2	5	46	68	121
	1.7	4.1	38.0	56.2	100.0

Table 5.136 shows that the vast majority of the responses either strongly agreed or agreed with the statement (94.2%), with only 1.7% opposed to the statement and 4.1% undecided. More males (95%) agreed than females (90.4%) but a high proportion of both genders agreed with the statement.

Table 5.137: Q3: There are many ways in which the development of VTE can be assisted: V1 Adopting the most advanced methods like interaction between education and world of work. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U value	Significance
Male		
Female	757.5	0.0223

The Mann-Whitney U Test in table 5.137 indicates that the difference in response of the students in the male and female personnel was statistically significant ($P<0.05$) particularly on the categories of 'agree' and 'strongly agree (table 5.136), i.e that a gender-differential response is present, particularly in differences observed in the categories of agreement and strong agreement (table 5.136).

Table 5.138: Q3: There are many ways in which the development of VTE can be assisted: V2: There is a need for all VTE institutions to be administered by one single authority which is not the Ministry of Education or any other Ministry. Cross tabulation, frequency, percentage by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	5	35	22	19	19	100
% of total	5.0	35.0	22.0	19.0	19.0	82.6
Female	1	3	6	6	5	21
% of total	4.8	14.3	28.6	28.6	23.8	17.4
Column total	6	38	28	25	24	121
	5.0	31.4	23.1	20.7	19.8	100.0

Table 5.138 shows that 36.4% strongly disagreed or disagreed with the statement. 40.5% strongly agreed or agreed - showing no major difference between the sexes; 23.1% were unsure. More disagreement came from male staff (40%) than female (19.1%). On the other hand more agreement was found amongst the female staff (52.4%) than amongst the male (38%). Also, more female staff (28.6%) were unsure than male (22%). More respondents agreed with the statement than disagreed, particularly amongst females.

Table 5.139: Q3: There are many ways in which the development of VTE can be assisted: V2: There is a need for all VTE institutions to be administered by one single authority which is not the Ministry of Education or any other Ministry. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U value	Significance
Male		
Female	842.5	0.1430

The Mann-Whitney U Test results in Table 5.139 shows that the difference between the responses of male and female personnel to the statement was not statistically significant (P>0.05).

Table 5.140: Q3: There are many ways in which the development of VTE can be assisted: V4: Preparing programmes and educational advice to the students to join VTE post school. Cross tabulation, frequency, percentage counts by specialisation.

Variables (Specialisation)	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	2		11	7	20
% of total	10.0		55.0	35.0	16.5
Technical Trainers		6	21	26	53
% of total		11.3	39.6	49.1	43.8
Teachers	1	1	14	32	48
% of total	2.1	2.1	29.2	66.7	39.7
Column total	3	7	46	65	121
	2.5	5.8	38.0	53.7	100.0

Table 5.140 shows that a majority of VTE staff strongly agreed or agreed with the statement (91.7%), while only 2.5% disagreed, 5.3% being unsure. There was a higher percentage (95.9%) among teachers who agreed or strongly agreed than administrators (90%) and technical trainers (88.7%). Thus it is clear that most VTE personnel supported the statement, particularly teachers amongst the staff.

Table 5.141: Q3: There are many ways in which the development of VTE can be assisted: V4: Preparing programmes and educational advice to the student to join VTE post school. Kruskal-Wallis Test to determine the significance of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical Trainers	6.5742	0.0374
Teachers		

The Kruskal-Wallis Test in table 5.141 reveals a significant difference in the response of VTE staff from the three specialisations ($P<0.05$) particularly on the categories of 'disagree', 'unsure', 'agree' and 'strongly agree' (table 5.140), even though there was a measure of uniformity when agreement and strong agreement were combined.

Table 5.142: Q3: There are many ways in which the development of VTE can be assisted: V5: Encouraging the integration and strengthening of the relationship between VTE and general education. Cross tabulation, frequency, percentage counts by nationality.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Nationality (1)	1	1	41	62	105
% of total	1.0	1.0	13.3	59.0	86.8
Nationality (2)		3	7	6	16
% of total		18.8	43.8	37.5	13.2
Column total	1	4	48	68	121
	0.8	3.3	29.7	56.2	100.0

Table 5.142 shows that 95.9% of the sample strongly agreed or agreed with the statements while 3.3% were unsure and 0.8% disagreed. More agreement came from Nat (2) (81.3%) than Nat (1) (72.3%), though considerably more `strong agreement' was observed in Nat (1) (59%). Nat (2) provided more unsure responses (18.8%) than Nat (1) (1.0%). The table shows that the vast majority of VTE staff, regardless of nationality, supported encouraging the integration of VTE and general education.

Table 5.143: Q3: There are many ways in which the development of VTE can be assisted: V5: Encouraging the integration and strengthening the relationship between VTE and general education. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by nationality.

Variables	U value	Significance
Nationality (1)		
Nationality (2)	606.0	0.0400

The Mann-Whitney U Test in table 5.143 shows the differences between Nat (1) and Nat (2) to be statistically significant ($P<0.05$) particularly on the categories of 'unsure', 'agree' and 'strongly agree' (table 5.142).

Key:

Nat (1) : Nationality: 1 - Qatari, 3 - Palestinian, 4 - Egyptian, 6 - Jordanian.

Nat (2) : Nationality: 2 - Gulf Co-operative Council (GCC), 5 - Sudanese, 7 - Syrian, 8 - Tunisian, 9 - Lebanese.

Table 5.144: Q3: There are many ways in which the development of VTE can be assisted: V6: Developing VTE plans linking with the job market demand. Cross tabulation, frequency, percentage counts by specialisation.

Variables (Specifications)	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators		2	7	11	20
% of total		10.0	35.0	55.0	16.5
Technical Trainers			26	27	53
% of total			49.1	50.1	43.8
Teachers	1	2	15	30	48
% of total	2.1	4.2	31.3	62.5	39.7
Column total	1	4	48	68	121
	0.8	3.3	39.7	56.2	100.0

Table 5.144 shows that 95.9% strongly agreed or agreed with the statement while only 0.8% of the staff disagreed and 3.3% were unsure. The high agreement came mainly from technical training staff (99.2%) with 93.8% of teachers and 90% of administrators agreeing with the statement. Therefore, it can be concluded that the majority of respondents overwhelmingly agreed with linking VTE programmes to the demands of the job market.

Table 5.145: Q3: There are many ways in which the development of VTE can be assisted: V6: Developing VTE plans linking with the job market demand. Kruskal-Wallis test to determine the significance of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical Trainers	7.4014	0.247
Teachers		

The Kruskal-Wallis Test in table 5.145 reveals that there is no significance in the responses of VTE staff in the different specialisations (P>0.05).

Table 5.146: Q3: There are many ways in which the development of VTE can be assisted: V11: Opening more institutions for VTE. Cross-tabulation, frequency, percentage counts by specialisation.

Variables (Specialisation)	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	3	2	13	2	20
% of total	15.0	10.0	65.0	10.0	16.5
Technical Trainers	3	6	22	22	53
% of total	5.7	11.3	41.5	41.5	43.8
Teachers	2	2	19	25	48
% of total	4.2	4.2	39.6	52.1	39.7
Column total	8	10	54	49	121
	6.6	8.3	44.6	40.5	100.0

Table 5.146 gives a high percentage for those who agreed with the statement (85.1%) while only 6.6% disagreed and 8.3% were unsure. More agreement came from teachers (91.7%) than technical trainers (83%) or administrators (75%). More disagreement came from administrators (15%) than technical trainers (5.7%) and teachers (4.2%).

Table 5.147: Q3: There are many ways in which the development of VTE can be assisted. Kruskal-Wallis test to determine the significance of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical Trainer	10.6476	0.0049
Teachers		

The Kruskal-Wallis Test in table 5.147 shows that the difference between the staff in different specialisations is statistically highly significant ($P<0.01$) particularly on the categories of 'disagree', 'unsure', 'agree' and 'strongly agree', i.e. that the observable spread of responses, even though generally skewed in favour of agreement, was important.

Table 5.148: Q4: Several criteria should be followed in selecting the teacher and trainers in VTE: V1: The applicants to VTE should have practical experience in the Field. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators			6	20	26
% of total			23.1	76.9	21.5
Technical trainers	3	4	19	32	58
% of row total	5.2	6.9	32.8	55.2	47.9
Teachers	1	1	8	27	37
% of row total	2.7	2.7	21.6	73.0	30.6
Column total	4	5	33	79	121
	3.3	4.1	27.3	65.3	100.0

Table 5.148 reveals that the majority of the VTE staff (92.6%) strongly agreed or agreed with the statement, while 4.1% were unsure and those who disagreed with it were 3.3%. More agreement came from administrators (100%) than teachers (94.6%), and finally technical trainers (88%). One can observe that most VTE staff supported the statement, especially among administrators, who totally agreed with the statement.

Table 5.149: Q4: Several criteria should be followed in selecting the teacher and trainers in VTE: V1: The applicants to VTE should have practical experience in the field. Kruskal-Wallis test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Admninistrator		
Technical trainer	5.8742	0.0530
Teacher		

The Kruskal-Wallis Test in table 5.149 suggests that the difference between the three specialisations was statistically not significant (P>0.05).

Table 5.150: Q4: Several criteria should be followed in selecting the teachers and trainers in VTE:V4: The applicants must have a degree, regardless of appropriacy of the subject. Frequency and percentage counts by specialisation.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	3	19	1	3		26
% of total	11.5	73.0	3.8	11.5		21.5
Technical trainers	2	30	13	9	4	58
% of total	3.4	51.7	22.4	15.5	6.9	47.9
Teachers	1	20	8	6	2	37
% of total	2.7	54.0	21.6	16.2	5.4	30.6
Column total	6	69	22	18	6	121
	5.6	57.0	18.2	14.9	5.0	100.0

Table 5.150 shows that the majority of the respondents strongly disagreed or disagreed (62.6%) with the statement while only 19.9% strongly agreed or agreed that the

applicants should have a degree regardless of appropriacy of the subject. Those who strongly disagreed were higher among administrators (84.5%) than teachers (56.7%) and technical trainers (55.1%). Unsure were 18.2%, 16.2% of teachers, 15.5% of technical trainers and 11.5% of administrators agreed with the statement. Those who were in favour of the statement were highest among teachers (21.6%) and lowest among administrators (11.5%). One can conclude that the majority believed that the applicants should have a degree in the specific subject.

Table 5.151: Q4: Several criteria should be followed in selecting the teacher and trainers in VTE V4: The applicants must have a degree, regardless of appropriacy of the subject. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical trainers	7.5566	0.0229
Teacher		

The Kruskal-Wallis Test on table 5.151 suggests that the difference between the institutes is statistically significant ($P<0.05$).

Table 5.152: Q4: Several criteria should be followed in selecting the teachers and trainers in VTE.V5: If the post is vacant, it should be filled regardless of qualifications. Frequency and percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	9	16	1			26
% of total	34.6	61.5	3.8			21.5
Technical trainers	24	28	2	3	1	58
% of total	41.4	48.3	3.4	5.2	1.7	47.9
Teachers	15	15	14	1	2	37
% of total	40.5	40.5	10.8	2.7	5.4	30.6
Column total	48	59	7	4	3	121
	39.7	48.8	5.8	3.3	2.5	100.0

Table 5.152 reveals that most respondents (88.5%) strongly disagreed or disagreed with the statement while 5.8% strongly agreed or agreed. Those who were unsure were 5.8%. More disagreement came from administrators (96.1%) than technical trainers (89.7%) and teachers (81.0%), those who agreed with the statement were more among teachers (8.1%) than technical trainers (6.9%). One can conclude that most VTE staff believed that the applicants should have appropriate qualifications to fill the vacant post.

Table 5.153: Q4: several criteria should be followed in selecting the teacher and trainers in VTE.V5: If the post is vacant, it should be filled regardless of qualifications. Kruskal-Wallis Test to determine the significance of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical trainers	0.2718	0.8729
Teachers		

The Kruskal-Wallis Test on table 5.153 shows that the difference between the responses in different specialisations is statistically not significant (P>0.05).

Table 5.154: Q4: Several criteria should be followed in selecting the teachers and trainers in VTE.v6: The teaching performance of teachers should be taken into consideration in selection. Frequency and percentage counts by specialisation.

Variables	Strongly disagree	Unsure	Agree	Strongly agree	Row total
Administrators			18	8	26
% of total			69.2	30.8	21.5
Technical trainers	1	1	7	29	58
% of total	1.7	1.7	46.6	50.0	47.9
Teachers		1	18	18	37
% of total		2.7	48.6	48.6	30.6
Column total	1	2	63	55	121
	0.8	1.7	52.1	45.5	100.0

Table 5.154 shows that the majority of participants strongly agreed or agreed (97.6%) while only 0.8% disagreed with the statements, with 1.7% unsure. Numbers of those who were in favour of the statement were higher among administrators (100%) than

teachers (97.2%) and technical trainers (96.6%). One can observe that the majority of VTE staff supported the statement.

Table 5.155: Q4: Several criteria should be followed in selecting the teachers and trainers in VTE.v6: The teaching performance of teachers should be taken into consideration in selection. Kruskal-Wallis Test to determine the significance of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical trainers	2.1731	0.3374
Teachers		

The Kruskal-Wallis Test on table 5.155 shows that the difference between the institutes is not statistically significant (P>0.05).

Table 5.156: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V1: A number of compulsory training courses are required for VTE teachers and trainers. Frequency, percentage counts by specialisation.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	1		9	10	20
% of total	5.0		45.0	50.0	16.5
Technical Trainers	3	5	20	25	53
% of total	5.7	9.4	37.7	47.2	43.8
Teachers		1	24	23	48
% of total		2.1	50.0	47.9	39.7
Column total	4	6	53	48	121
	3.3	5.0	43.8	39.7	100.0

Table 5.156 shows that 83.5% of the sample population agreed or strongly agreed with the statement while only 3.3% disagreed and only 5% were unsure. Agreement amongst teachers was higher (97.9%) than amongst administrators (95.0%) and technical trainers (84.9%). Amongst the administrators no-one was unsure, only 2.1% of teachers and 9.4% of technical trainers were unsure about the statement. Thus the table reveals that the majority agreed with the statement, especially teachers.

Table 5.157: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V1: Having a number of compulsory training courses. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical Trainers	0.6219	0.7327
Teachers		

The Kruskal-Wallis Test on table 5.157 shows that the difference between the responses in different specialisations is statistically not significant (P>0.05) i.e. that there is a degree of uniformity of response in agreement and disagreement.

Table 5.158: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V2: Increasing incentives. Cross-tabulation, frequency, percentage counts by specialisation.

Variables (Specialisation)	Unsure	Agree	Strongly agree	Row total
Administrators	2	13	5	20
% of total	10.0	65.0	25.0	16.5
Technical Trainers		27	26	53
% of total		50.9	49.1	43.8
Teachers	3	17	28	48
% of total	6.3	35.4	58.3	39.7
Column total	5	57	59	121
	4.1	47.1	48.8	100.0

Table 5.158 shows that a large proportion (95.9%) of the sample population agreed or strongly agreed with the statement while only 4.1% were unsure. Agreement amongst technical trainers was higher (100%) than amongst teachers (93.7%) and administrators (90%). The same table shows that no-one disagreed with the statement but some were unsure (10% of the administrators). One can observe high agreement among all specialisations, particularly technical trainers.

Table 5.159: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administators		
Technical Trainers	6.3921	0.0409
Teachers		

The Kruskal-Wallis Test on table 5.159 shows that the difference between the different specialisations is statistically significant ($P<0.05$), particularly in the categories of 'agree' and 'strongly agree' (table 5.158), i.e. that despite an overall similarity of responses important differences could be observed.

Table 5.160: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes V9. Testing the knowledge of teachers and trainers from time to time is required. Cross-tabulation, frequency, percentage counts by gender.

Variables (Gender)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	1	13	16	56	14	100
% of total	1.0	13.0	16.0	56.0	14.0	82.6
Female		2	1	11	7	21
% of total		9.5	4.8	52.4	33.3	17.4
Column total	1	15	17	67	21	121
	0.8	12.4	14.0	55.4	17.4	100.0

Table 5.160 shows that 72.8% of the sample population agreed or strongly agreed with the statement while 13.2% disagreed and 14% were unsure. More support for the statement came from female staff (85.7%) than from male (70%) and many more males were unsure (16%) than females (4.8%). Also more male personnel (14%) strongly disagreed or disagreed with the statement than female staff (9.5%).

Table 5.161: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V9: Testing the knowledge of teachers and trainers from time to time is required. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	774.0	0.0370
Female		

The Mann-Whitney U Test on table 5.161 shows that there is a significant difference in the responses between males and females ($P<0.05$), particularly in the categories of 'unsure' and 'strongly agree' (table 5.160), i.e. that a gender-differentiated response could be observed.

Table 5.162: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes V10. Testing the ability of teachers and trainers from time to time is required. Cross-tabulation, frequency, percentage counts by gender.

Variables (Gender)	Disagree	Unsure	Agree	Strongly agree	Row total
Male	14	17	55	14	100
% of total	14.0	17.0	55.0	14.0	82.6
Female	2		13	6	21
% of total	9.5		61.9	28.6	17.4
Column total	16	17	68	20	121
	13.2	14.0	56.2	16.5	100.0

Table 5.162 shows that 72.7% of the sample population agreed or strongly agreed with the statement while 13.2% disagreed and 14% were unsure. The percentage of male students who disagreed was 14% and females 9.5%, and that more males were unsure (14%) than females (9.5%). Also more female personnel (90.5%) strongly agreed or agreed with the statement than male staff (69.0%). One can observe that the majority agreed.

Table 5.163: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V10: Teachers and trainers ability should be tested from time to time. Mann Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	767.5	0.0320
Female		

The Mann-Whitney U Test in table 5.163 shows that the difference in male and female staff responses is statistically significant ($P<0.05$) particularly in the categories of 'unsure' and 'strongly agree' (table 5.163), again an observable gender-differentiated response.

Table 5.164: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V11: Sending teachers and trainers of VTE institutions abroad to acquire the most recent techniques in VTE is required. Cross-tabulation, frequency, percentage counts by gender.

Variables (Gender)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male		1		34	65	100
% of total		1.0		34.0	65.0	82.6
Female	1		3	8	9	21
% of total	4.8		14.3	38.1	42.9	17.4
Column total	1	1	3	42	74	121
	0.8	0.8	2.5	34.7	61.2	100.0

Table (5.164) shows that 95.9% of the sample population agreed or strongly agreed with the statement while only 14.3% were unsure. A large majority supported the statement. More support for the statement came from male staff (99%) than from female (81%).

Table 5.165: Q5: Certain criteria should be followed to prepare teachers and trainers of VTE institutes. V11: Sending teachers and trainers of VTE institutions abroad to acquire the most recent techniques in VTE is required. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	754.5	0.0179
Female		

The Mann-Whitney U Test (table 5.165) shows that the difference between the male and female staff of VTE is statistically significant ($P<0.05$) particularly in the categories of 'unsure' and 'strongly agree' (table 5.164), that a gender-differentiated response indicated a greater importance to going abroad being given by males (99%) as opposed to females (81%).

Table 5.166: Q6: Which of the following criteria should be used in selecting teachers and trainers of VTE institutes to be sent abroad for training courses? V1: Must be a citizen. Cross-tabulation, frequency, percentage counts by nationality.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Nat (1)		21	20	24	40	105
% of total		20.0	19.0	22.9	38.1	86.8
Nat (2)	1	2	1	5	7	16
% of total	6.3	12.5	6.3	31.3	43.8	13.2
Column total	1	23	21	29	47	121
	0.8	19.0	17.4	24.0	38.8	100.0

Table 5.166 shows that 62.8% of the sample population agreed or strongly agreed with the statement while 19.8% strongly disagreed or disagreed and 17.4% were unsure. The agreement amongst Nat (2) (75.1%) was higher than that of Nat (1) (61%) and disagreement amongst Nat (1) and Nat (2) was also higher (20%), with

18.8% unsure among Nat (1) being higher than Nat (2) respectively. The table shows that a majority supported the statement.

Table 5.167: Q6: Which of the following criteria should be used in selecting teachers and trainers of VTE institutes to be sent abroad for training courses? V1 Must be a citizen. Mann-Whitney U Test to determine the significance of the distribution of rating scale response by nationality.

Variables	U-value	Significance
Nat (1)		
Nat (2)	768.0	0.5648

The Mann-Whitney U Test in table 5.167 shows that the difference between the responses of the two nationality groups is statistically not significant (P>0.05).

Key:

Nat (1) : Nationality: 1 - Qatari, 3 - Palestinian, 4 - Egyptian, 6 - Jordanian.

Nat (2) : Nationality: 2 - Gulf Co-operative Council (GCC), 5 - Sudanese, 7 - Syrian, 8 - Tunisian, 9 - Lebanese.

Table 5.168: Q6: Which of the following criteria should be used in selecting teachers and trainers of VTE institutions to be sent abroad for training courses? V2: According to the needs of specialisation. Cross-tabulation, frequency, percentage counts by nationalities.

Variables	Unsure	Agree	Strongly agree	Row total
Nat (1)	3	56	46	105
% of total	2.9	53.3	43.8	86.8
Nat (2)		11	3	16
% of total	12.5	68.8	18.8	13.2
Column total	5	67	49	121
	4.1	55.4	40.5	100.0

Table 5.168 shows that 95.9% of the sample population agreed or strongly agreed with the statement while (4.1%) were unsure and there was no disagreement. More of the undecided came from the Nat (2) category (12.5%) than Nat (1) (2.9%). The percentage of Nat (1) who strongly agreed or agreed with the statement is higher (97.1%) than Nat (2) (87.6%) but, overall, the table shows there was a large consensus of agreement on the statement, i.e. that overseas training should be appropriate to the specialisations.

Table 5.169: Q6: Which of the following criteria should be used in selecting teachers and trainers of VTE institutes to be sent abroad for training courses? V2: according to needs of specialisation. Mann-Whitney U test to determine the significance of distribution of rating scale responses by nationality.

Variables	U-value	Significance
Nat (1)	590.0	0.0286
Nat (2)		

Table 5.169 shows that the difference between the responses of Nat (1) and Nat (2) is statistically significant ($P<0.05$) particularly in the categories of 'unsure' and 'strongly agree' (table 5.168).

Key:

Nat (1) : Nationality: 1 - Qatari, 3 - Palestinian, 4 - Egyptian, 6 - Jordanian.

Nat (2) : Nationality: 2 - Gulf Co-operative Council (GCC), 5 - Sudanese, 7 - Syrian, 8 - Tunisian, 9 - Lebanese.

Table 5.170: Q6: Which of the following criteria should be used in selecting teachers and trainers of VTE institutes to be sent abroad for training courses? V3: Those having an excellent record of work. Cross-tabulation, frequency, percentage counts by nationalities.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Nat (1)	1	10	41	53	105
% of total	1.0	9.5	39.0	50.5	86.8
Nat (2)		2	11	3	16
% of total		12.5	68.8	18.8	13.2
Column total	1	12	52	56	121
	0.8	9.9	43.0	46.3	100.0

Table 5.170 shows that 89.3% of the sample population agreed or strongly agreed with the statement while 10.7% rejected the statement and 9.9% were unsure. Nat (1) category was more in favour of the statement (89.5%) than Nat (2) (87.6%). Conversely only 1% of Nat (1) disagreed with the statement and 9.5% of Nat (1) and 12.5% of Nat (2) were unsure.

Table 5.171: Q6: Which of the following criteria should be used in selecting teachers and trainers of VTE institutes to be sent abroad for training courses? - V3: Those having an excellent record of work. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by nationality.

Variables	U-value	Significance
Nat (1)	594.0	0.0377
Nat (2)		

Table 5.171 shows that the difference between the responses of the different nationalities to Q6V3 is statistically significant ($P<0.05$) particularly in the categories of 'agree' and 'strongly agree' (table 5.170), replicating the findings of table 5.168.

Key:

Nat (1) : Nationality: 1 - Qatari, 3 - Palestinian, 4 - Egyptian, 6 - Jordanian.

Nat (2) : Nationality: 2 - Gulf Co-operative Council (GCC), 5 - Sudanese, 7 - Syrian, 8 - Tunisian, 9 - Lebanese.

Table 5.172: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V1: The lack of interest in this sector of education. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	3	4	18	54	21	100
% of total	3.0	4.0	18.0	54.0	21.0	82.6
Female	1		2	14	4	21
% of total	4.8		9.5	66.7	19.1	17.4
Column total	4	4	20	68	25	121
	3.3	3.3	16.5	56.5	20.7	100.0

Table 5.172 shows that 76.9% of the sample of staff agreed or strongly agreed with the statement while 6.6% rejected the statement and 16.5% were unsure. More female staff (85.8%) than male staff (75%) agreed with the statement. It also shows that more male than female personnel strongly disagreed or disagreed with the statement (7.0% and 4.8% respectively) and more males than females were unsure (18% and 9.5% respectively).

Table 5.173: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V1: The lack of interest in this sector of education. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	980.5	0.5970
Female		

The Mann-Whitney U Test in table 5.173 suggests that the difference between the two variables was not statistically significant (P>0.05).

Table 5.174: Q7. VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V2: The lack of financial incentives in this sector of education. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	5	32	14	35	14	100
% of total	5.0	32.0	14.0	35.0	14.0	82.6
Female	2	3	6	7	3	21
% of total	9.5	14.3	28.6	33.3	14.3	17.4
Column total	7	35	20	42	17	121
	5.8	28.9	16.5	34.7	14.0	100.0

Table 5.174 gives the total from cross-tabulation, frequency and percentage. It reveals that 48.7% of the sample of staff agreed or strongly agreed with the statement while 16.5% were unsure and 34.7% rejected the statement. The table also shows that more disagreement came from male (37%) than female staff (23.8%) and that more females (28.6%) than males (14%) were unsure. On the other hand the proportion of males who agreed was higher amongst male (49%) than female staff (47.6%). If the unsure are combined with those who disagree the percentage is (51.2%), which is a higher

percentage than those supporting the statement, indicating a greater spread of responses than in other tables.

Table 5.175: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V2: The lack of financial incentives in this sector of education. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	1009.5	0.7734
Female		

The Mann-Whitney U Test in table 5.175 suggests that the difference between the two variables was not statistically significant (P>0.05), i.e. that the differential response by gender was statistically insignificant.

Table 5.176: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V3: The low status of VTE education. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	3	26	24	35	12	100
% of total	3.0	26.0	24.0	35.0	12.0	82.6
Female		5	3	10	3	21
% of total		23.8	14.3	47.6	14.3	17.4
Column total	3	31	27	45	15	121
	2.5	25.6	22.3	37.2	12.4	100.0

Table 5.176 shows that 49.6% of the sample supported the statement while 28.1% rejected it and 22.3% were unsure. The table also reveals that more male staff (29%) than female ones (23.8%) rejected the statement and more male than female staff were

unsure (24% and 14.3% respectively). It also showed that more female respondents (61.9%) than males (47%) strongly agreed or agreed with the statement. If the unsure are combined with those who resisted the statement the percentage is 50.4%, which is a higher percentage than those supporting the statement, indicating a greater spread of response than in other tables.

Table 5.177: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V3: The low status of VTE education. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	910.0	0.3175
Female		

The Mann-Whitney U Test in table 5.177 suggests that the difference between the two variables was not statistically significant (P>0.05).

Table 5.178: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V4: The slow promotion in this sector of education. Cross-tabulation, frequency, percentage counts by gender.

Variable	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	4	28	16	41	11	100
% of total	4.0	28.0	16.0	41.0	11.0	82.0
Female		1	5	12	3	21
% of total		4.8	23.8	57.1	14.3	17.4
Column total	4	29	21	53	14	121
	3.3	24.0	17.4	43.8	11.6	100.0

Table 5.178 indicates that 55.4% of the staff strongly agreed or agreed with the statement while 27.3% disagreed and 17.4% were unsure. If columns 4 and 5 are

combined then those who strongly agreed or agreed was greater amongst female staff (71.4%) than males (52%); more female than male staff were unsure (23.8% and 16% respectively). More male respondents than females rejected the statement (32% and 4.8% respectively).

Table 5.179: Q7: VTE suffers from a shortage of Qatari teachers and trainers for several reasons. V4: The slow promotion in this sector of education. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male	776.5	0.0476
Female		

The Mann-Whitney U Test in table 5.179 suggests that the difference between the two variables was statistically significant ($P<0.05$) particularly in the categories of 'disagree' and 'unsure' (table 5.178), i.e. repeating an observable pattern of gender-differentiated responses.

Table 5.180: Q8: The appropriate starting monthly salary, given the effort made by a teacher or trainer in the field of VTE should be: V1: 5000-5999 Riyal. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	1	7	2	6	4	20
% of total	5.0	35.0	10.0	30.0	20.0	16.5
Technical Trainers	6	21	12	12	2	53
% of total	11.3	39.6	22.6	22.6	3.8	43.8
Teacher	6	30	3	7	2	48
% of total	12.5	62.5	6.3	14.6	4.2	39.7
Column total	13	58	17	25	8	121
	10.7	47.9	14.0	20.7	6.6	100.0

Table 5.180 shows that 58.6% of the staff strongly disagreed or disagreed with the statement while 27.3% agreed or strongly agreed and 14% were unsure. More teachers opposed the suggested salary (75%) than technical trainers (50.9%) and administrators (40%). Conversely, of those who were in favour of the salary, a high percentage were administrators (50%), with technical trainers and teachers being respectively 26.4% and 18.8% in favour, 22.6% of the technical trainers being unsure and 6.3% of the teachers being unsure. Thus the table shows that the majority did not agree with the salary level.

Table 5.181: Q8: The appropriate starting monthly salary, given the effort made by a teacher or trainer in the field of VTE should be: V1: 5000-5999 Riyal. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi square (Corrected for ties)	Significance
Administrator		
Technical Trainer	8.5224	0.0141
Teacher		

The Kruskal-Wallis Test on table 5.181 suggests that the difference between the different specialisations was statistically significant ($P<0.05$) particularly in the categories of 'disagree', 'unsure', 'agree' and 'strongly agree'.

Table 5.182: Q8: The appropriate starting monthly salary, given the effort made by a teacher or trainer in the field of VTE is V7: over 11,000 Riyal. Cross-tabulation, frequency, percentage counts by specialisations.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	8	10	2			20
% of total	40.0	50.0	10.0			16.5
Technical Trainers	4	26	15		8	53
% of total	7.5	49.0	28.3		15.2	43.8
Teachers	6	24	8	1	9	48
% of total	12.5	50.0	16.7	2.1	18.8	39.7
Column total	18	60	25	1	17	121
	14.9	49.6	20.7	0.8	14.0	100.0

Table 5.182 reveals that the majority (64.5%) of the VTE staff strongly disagreed or disagreed with the salary level while 14.8% agreed and 20.7% were unsure. More administrators strongly disagreed or disagreed with the statement (90%) while 54.5% of technical trainers and 62.5% of teachers disagreed. More technical trainers were

unsure about the statement (28.3%), than the other two groups of people. The table shows that VTE staff believed that any salary offered by the government did not reflect their efforts.

Table 5.183: Q8: The appropriate starting monthly salary, given the effort made by a teacher or trainer in the field of VTE is V7: over 11,000 Riyal. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialists.

Variables	Chi square (Corrected for ties)	Significance
Administrators		
Technical Trainers	13.1025	0.0014
Teachers		

The Kruskal-Wallis Test on table 5.183 suggests that the difference between the three specialisations was statistically highly significant ($P<0.01$) in all the categories. Taken with table 5.182 one can observe agreement with lower salaries, technical trainers tending to agree with medium range salaries, and teachers tending to agree with medium range salaries.

Table 5.184: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V1: Because the tools and machines used are obsolete. Cross-tabulation, frequency, percentage counts by institute (INST).

Variables (INST)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	3	2	5	21	24	55
% of total	5.5	3.6	9.1	38.2	43.6	45.5
INST (2)	1	10	8	7	5	31
% of total	3.2	32.3	25.8	22.6	23.8	25.6
INST (3)		5	9	6	4	24
% of total		20.8	37.5	25.0	16.7	19.8
INST (4)		1	2	7	1	11
% of total		9.1	18.2	63.6	9.1	9.1
Column total	4	18	24	41	34	121
	3.3	14.9	19.8	33.9	28.1	100.0

Table 5.184 reveals that 62% of the sample strongly agreed or agreed with the statement while 18.2% disagreed and 19.8% were unsure. More agreement came from INST (1) (81.8%) than INST (4) (72.7%), INST (2) (47.4%) and INST (3) (41.7%). Conversely, the number who disagreed with the statement was higher among INST (2) at (35.5%) than among INST (3) (20.8%), INST (4) and INST (1), both of whom scored (9.1%). The largest percentage of unsure was amongst INST (3) at 37.5% and INST (2) at 25.8%, with INST (4) being 18.2% and INST (1) the lowest at 9.1%.

Table 5.185: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V1: Because the tools and machines used are obsolete. The Kruskal-Wallis Test to determine the significance or rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	18.6473	0.0003
INST (3)		
INST (4)		

The Kruskal-Wallis Test on table 5.185 suggested that the difference between the four institutes was statistically highly significant ($P<0.001$) particularly in the categories of 'disagree', 'unsure', 'agree' and 'strongly agree', indicating either that differential importance was accorded to this variable or that differential resourcing existed in the institutions. If the former is true then Inst (1) and Inst (2) accorded more importance to this issue than Inst (3) and Inst (4); if the latter is true, resourcing was less of a problem in Inst (3) and Inst (4).

Key

INST (1) : Industrial School and Regional Training Centre

INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)

INST (3) : Nursing Institutions and Health Inspection Institutions

INST (4) : Technology College

Table 5.186: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V2: Because the workshops are not equipped and organised properly. Cross-tabulation, frequency, percentage counts by institute (INST).

Variables (INST)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)		8	2	26	19	55
% of total		14.5	3.6	47.3	34.5	45.5
INST (2)	1	11	1	12	6	31
% of total	3.2	35.5	3.2	38.7	19.4	25.6
INST (3)		2	13	6	3	24
% of total		8.3	54.2	25.0	12.5	19.8
INST (4)		2		7	2	11
% of total		18.2		63.6	18.2	9.1
Column total	1	23	16	51	30	121
	0.8	19.0	13.2	42.1	24.8	100.0

According to Table 5.186 a large majority of VTE staff either agreed or strongly agreed with the statement (66.9%) and 19.8% rejected the statement, with 13.2% being unsure. More agreement came from INST (1) and INST (4), with the same percentage (81.8%), than INST (2), with a frequency of 58.1%, and INST (3), with 37.5%. INST (2) had a higher percentage of staff (38.1%) who did not accept the statement than INST (4) at 18.2%, INST (1) at 14.5% and INST (3), the lowest, at 8.3%. One can observe that even there is high agreement among most institutions but still we can see that there is some resistance among INST (2) and INST (1).

Table 5.187: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V2: Because the workshops are not equipped and organised properly. The Kruskal-Wallis Test to determine the significance or rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	10.8247	0.0127
INST (3)		
INST (4)		

The Kruskal-Wallis Test on table 5.187 suggests that the difference between the four institutes was statistically significant ($P<0.05$) particularly in the categories of 'disagree', 'unsure', 'agree' and 'strongly agree' (table 5.186).

Key

INST (1) : Industrial School and Regional Training Centre

INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)

INST (3) : Nursing Institutions and Health Inspection Institutions

INST (4) : Technology College

Table 5.188: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V3: Because the buildings are old and cannot accommodate modernisation. Cross-tabulation, frequency, percentage counts by institute (INST).

Variables (INST)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)		10	5	15	25	55
% of total		18.2	9.1	27.3	45.5	45.5
INST (2)	1	13	3	8	6	31
% of total	3.2	41.9	9.7	25.8	19.4	25.6
INST (3)		1	12	8	3	24
% of total		4.2	50.0	33.3	12.5	19.8
INST (4)			3	6	2	11
% of total			27.3	54.5	18.2	9.11
Column total	1	24	23	37	36	121
	0.8	19.8	19.0	30.0	29.8	100.0

Table 5.188 shows that 59.8% of the sample accepted the statement while 20.6% rejected it and 19.0% were unsure. If the unsure are added to those who rejected the statement, the percentage is 39.6%, which is still lower than those who agreed with the statement in columns 4 and 5 (59.8%), i.e. there was a majority in agreement. More agreement came from INST (1) (72.8%) and INST (4) (72.7%) than INST (3) (45.8%), and INST (2) (45.2%). More 'unsure' came from INST (3) (50%), than INST (4) (27.3%), with INST (2) and INST (1) scoring lower at 9.7% and 9.1% respectively. The number of those who opposed the statement was greatest among INST (2) (45.1%) and the lowest number opposing the statement was found in INST (3) at 4.2%.

Table 5.189: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V3: Because the buildings are old and cannot accommodate modernisation. The Kruskal-Wallis Test to determine the significance or rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	11.6781	0.0086
INST (3)		
INST (4)		

The Kruskal-Wallis Test on table 5.189 suggests that the difference between the four institutes was statistically highly significant ($P<0.01$) particularly in the categories of 'disagree', 'unsure', 'agree' and 'strongly agree'.

Key

INST (1) : Industrial School and Regional Training Centre

INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)

INST (3) : Nursing Institutions and Health Inspection Institutions

INST (4) : Technology College

Table 5.190: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V5: Due to a lack of modern equipment such as computers and typewriters. Cross-tabulation, frequency, percentage counts by institute (INST).

Variables (INST)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	1	13	11	16	14	55
% of total	1.8	23.6	20.0	29.1	25.5	45.5
INST (2)	1	21	3	5	1	31
% of total	3.2	67.7	9.7	16.1	3.2	25.6
INST (3)		6	9	5	4	24
% of total		25.0	37.5	20.8	16.7	19.8
INST (4)	2	4		4	1	11
% of total	18.2	36.4		36.4	9.1	9.1
Column total	4	44	23	30	20	121
	3.3	36.4	19.0	24.8	16.5	100.0

Table 5.190 reveals that 41.3% of the sample strongly agreed or agreed with the statement while 39.7% disagreed and 19% were unsure. If we combine the undecided with those opposing the statement (58.7%) the percentage would be higher than those supporting the statement. A higher proportion of people rejecting the statement are found in INST (2) (70.9%) than INST (4) (54.6%), INST (1) (25.4%) and INST (3), the lowest, at (25.0%). Male staff from INST (1) who agreed comprise 54.6%, those from INST (4) being 45.5%, INST (3) being 37.5% and, lowest, INST (2) at 19.3%.

Table 5.191: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V5: Due to the lack of modern equipment such as computers and typewriters. The Kruskal-Wallis Test to determine the significance or rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	17.4794	0.0006
INST (3)		
INST (4)		

The Kruskal-Wallis Test on table 5.191 suggests that the difference between the four institutes was statistically highly significant ($P<0.001$) particularly in the categories of 'unsure', 'agree' and 'strongly agree'.

Key

INST (1) : Industrial School and Regional Training Centre

INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)

INST (3) : Nursing Institutions and Health Inspection Institutions

INST (4) : Technology College

Table 5.192: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V6: The laboratories are not well equipped with scientific instruments. Cross-tabulation, frequency, percentage counts by institute (INST).

Variables (INST)	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)		10	4	18	23	55
% of total		18.2	7.3	32.7	41.8	45.5
INST (2)	1	12	7	10	1	31
% of total	3.2	38.7	22.6	32.3	3.2	25.6
INST (3)		3	6	13	2	24
% of total		12.5	25.0	54.2	8.3	19.8
INST (4)	1	3	2	3	2	11
% of total	9.1	27.3	18.2	27.3	18.2	9.1
Column total	2	28	19	44	28	121
	1.7	23.1	15.7	36.4	23.1	100.0

Table 5.192 shows that 59.5% of the sample population strongly agreed or agreed with the statement while 24.8% disagreed and 15.7% were unsure. A higher agreement from INST (1) (74.5%) than INST (3) (62.5%) and INST (4) (45.5%), and INST (2) at 35.5% was the lowest. Conversely those who rejected the statement were higher among INST (2) (41.9%) than INST (4) (36.4%), INST (1) (18.2%) and the lowest number opposing the statement was found in INST (1) at 12.5%. The unsure were highest in INST (3) at 25% and lowest among INST (1) at 7.3%.

Table 5. 193: Q9. Why the buildings, workshop and laboratories of VTE are unable to fulfil their role: V6: The laboratories are not well equipped with scientific instruments. The Kruskal-Wallis Test to determine the significance or rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	19.3816	0.0002
INST (3)		
INST (4)		

The Kruskal-Wallis Test on table 5.193 suggests that the difference between the four institutes was statistically highly significant ($P<0.001$) particularly in the categories of 'disagree', 'unsure', 'agree' and 'strongly agree', hence the differences between agreement and disagreement amongst institutions is important.

Key:

INST (1) : Industrial School and Regional Training Centre

INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)

INST (3) : Nursing Institutions and Health Inspection Institutions

INST (4) : Technology College

Table 5.194: Q10: VTE programmes do not meet the demands of the job market due to V1: over-emphasising the theoretical side. Cross-tabulation frequency, percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators		5	9	4	2	20
% of total		25.0	45.0	20.0	10.0	16.5
Technical Trainers	5	29	8	7	4	53
% of total	9.4	54.7	15.1	13.2	7.5	43.8
Teachers		20	6	16	6	48
% of total		41.7	12.5	33.3	12.5	39.7
Column total	5	54	23	27	12	121
	4.1	44.6	19.0	22.3	9.9	100.0

Table 5.194 reveals that 48.7% of the sample strongly disagreed or disagreed with the statement whilst 32.2% agreed and 19% were unsure. The percentage of technical trainers who strongly disagreed or disagreed, at 64.1%, is higher than that of teachers (41.7%) and administrators (25%). The highest proportion of those in agreement with the statement was teachers at 45.8%, then administrators at 30% and the lowest was technical trainers at 20.7%. 'Unsure' was highest among administrators, at 45%, and lowest among teachers at 12.5%. The majority of the sample population rejected the statement but at the same time a significant percentage did support it.

Table 5.195: Q10: VTE programmes do not meet the demands of the job market due to V1: over-emphasising the theoretical side. Kruskal-Wallis Test to determine the significance of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	10.1115	0.0064
Teachers		

The Kruskal-Wallis Test on table 5.195 shows that the difference between the institutes is statistically highly significant ($P<0.01$) particularly in the categories of 'strongly disagree', 'disagree', 'unsure' and 'agree'.

Table 5.196: Q10: VTE programmes do not meet the demands of the job market due to V3: the job market demands specialisations that are unavailable in those institutions. Cross-tabulations, frequency percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrator	1	7	3	8	1	20
% of total	5.0	35.0	15.0	40.0	5.0	16.5
Technical Trainers	4	18	9	16	6	53
% of total	7.5	35.0	17.0	30.2	11.3	43.8
Teachers	2	21	10	13	2	48
% of total	4.2	43.8	20.8	27.1	4.2	39.7
Column total	7	46	22	37	9	121
	5.8	38.0	18.2	30.6	7.4	100.0

Table 5.196 indicates that 43.8% of the sample strongly disagreed or disagreed with the statement whilst 38% agreed and 18.2% were unsure. The percentage of teachers who rejected the statement - at 48% - is higher than that of technical trainers (42.5%)

and administrators (40%). The highest proportion of those in agreement with the statement was administrators at 45% with technical trainers at 41.5% and teachers at 31.3%. The highest proportion of 'unsure' was teachers at 20.8% and the lowest was amongst administrators 15%. The table shows that whilst a majority rejected the statement, a large number supported it. If the unsure are added to those in favour, the combined percentage comes to 56.2%, which is higher than those rejecting the statement. From this it can be seen that the majority of responses were in the negative.

Table 5.197: Q10: VTE programmes do not meet the demands of the job market due to V3: the job market demands specialisations that are unavailable in those institutions. Kruskal-Wallis Test to determine the significance of rating responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	0.9905	0.6094
Teachers		

The Kruskal-Wallis Test on table 5.197 suggests that the difference between the opinions of the staff of VTE is not statistically significant (P>0.05), giving added uniformity and weight to the findings above that, regardless of institution, an extreme feeling was not present - there was a central tendency in the data.

Table 5.198: Q10: VTE programmes do not meet the demands of the job market due to V4: The VTE is not related to the country's economic needs. Cross-tabulations, frequency percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	3	8	4	3	2	20
% of total	15.0	40.0	20.0	15.0	10.0	16.5
Technical Trainers	3	22	7	15	6	53
% of total	5.7	41.5	13.2	28.3	11.3	43.8
Teachers	1	24	8	11	4	48
% of total	2.1	50.0	16.7	22.9	8.3	39.7
Column total	7	54	19	29	12	121
	5.8	44.6	15.7	24.0	9.9	100.0

Table 5.198 reveals that 50.4% of the sample strongly disagreed or disagreed with the statement whilst 33.9% agreed and 15.7% were unsure. The table also tells us that more resistance came from the administrators (55%) than teachers (52.1%) and technical trainers (47.2%). The percentage of technical trainers in favour of the statement - at (39.6%) - is higher than that of teachers (31.2%), with administrators being the lowest at 25%. The cross-tabulation also reveals that the highest proportion of those who were unsure about the statement was administrators at 20% and the lowest was technical trainers at 13.2%. One can observe that even if the majority of the respondents resisted the statement, there is still a high percentage supporting the statement and, if the unsure are added to those in favour, the combined percentage comes to 49.6%, which is still not a majority, thus the majority of responses are still in the negative.

Table 5.199: Q10: VTE programmes do not meet the demands of the job market due to V4: The VTE is not related to the country's economic needs. Kruskal-Wallis Test to determine the significance of rating responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	1.2043	0.5476
Teachers		

The Kruskal-Wallis Test on table 5.199 suggests that the difference between the opinions of the staff of VTE is not statistically significant (P>0.05), hence there is a parity of response across the sample.

Table 5.200: Q12: To meet the demands of the job market, certain fields of specialisation must be emphasised. V3: Construction. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	1	6	9	4	20
% of total	5.0	30.0	45.0	20.0	16.5
Technical Trainers		5	25	23	53
% of total		9.4	47.2	43.4	43.8
Teachers	1	6	20	21	48
% of total	2.1	12.5	41.7	43.8	39.7
Column total	2	17	54	48	121
	1.7	14.0	44.6	39.7	100.0

Table 5.200 shows that a large majority (84.3%) strongly agreed or agreed with the statement whilst 14% could not make up their minds. Very few opposed the statement. A high percentage of those who agreed with the statement were technical trainers

(90.6%), with administrators being the lowest percentage at 65% and teachers second at 85.5%. Administrators comprised the largest sector (30%) of the unsure and technical trainers the smallest at 9.4%. The table shows that the majority of the sample population was in favour of having construction specialisation, as though those people who were closely involved in it were more pressing in their responses.

Table 5.201: Q12: To meet the demands of the job market, certain fields of specialisation must be emphasised. V3: Construction. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	6.8938	0.0318
Teachers		

The Kruskal-Wallis Test on table 5.201 shows that the difference between the three specialisations is statistically significant ($P<0.05$), indicating that the discrepancy observed between the administrators and the others was not significant.

Table 5.202: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V4: Marketing. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	1	5	12	2	20
% of total	5.0	25.0	60.0	10.0	16.5
Technical Trainers	3	3	31	16	53
% of total	5.7	5.7	58.5	30.2	43.8
Teachers		7	24	17	48
% of total		14.6	50.0	35.4	38.7
Column total	4	15	67	35	121
	3.3	12.4	55.4	28.9	100.0

Table 5.202 shows that a large majority (84.3%) of the entire population strongly agreed or agreed with the statement whilst 12.4% could not make up their minds and very few opposed the statement (3.3%). The percentage of agreement with the statement is higher in technical trainers (88.7%), compared with 85.4% teachers and 70% of administrators.

Table 5.203: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V4: Marketing. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	6.0400	0.0488
Teachers		

The Kruskal-Wallis Test in table 5.203 shows that the difference between the three specialisations is statistically significant ($P<0.05$). This is particularly noticeable in the differences between the administrators and the other two groups (table 5.202).

Table 5.204: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V6: Computer technicians. Cross-tabulation, frequency, percentage counts by gender.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Male		2	38	60	100
% of total		2.0	38.0	60.0	82.6
Female	2	2	10	7	21
% of total	9.5	9.5	47.6	33.3	17.4
Column total	2	4	48	67	121
	1.7	3.3	39.7	55.4	100.0

Table 5.204 tells us that a large majority (95.1%) of the population supported the statement whilst 3.3% could not make up their minds and very few opposed the statement (1.7%). The table also tells us that more male staff (98%) than female staff (80.9%) supported the statement and only 9.2% of female staff disagreed with the statement. The need for specialisation here is seen very strongly.

Table 5.205: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V6: Computer technicians. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	702.0	0.0066

The Mann-Whitney test in table 5.205 tells us that the difference between the responses of male and female staff specialisations is statistically highly significant ($P<0.01$), the need for specialisation being felt more by the males.

Table 5.206: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V8: Advertising. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	3	7	7	3	20
% of total	15.0	35.0	35.0	15.0	16.5
Technical Trainers	3	11	29	10	53
% of total	5.7	20.8	54.7	18.9	43.8
Teachers	1	10	21	16	48
% of total	2.1	20.8	43.8	33.3	39.7
Column total	7	28	57	29	121
	5.8	23.1	47.1	24.0	100.0

Table 5.206 reveals that a large majority (71.1%) of VTE staff agreed or strongly agreed the statement whilst 23.1% could not make up their minds and very few disagreed with the statement (5.8%). A higher percentage of teachers agreed with the statement (77.1%) than technical trainers (73.6%) and administrators (50%). The highest proportion of unsure was of administrators (35%); technical trainers and teachers were the same at 20.8% each. Disagreement was more amongst administrators at 15.0% and lowest amongst teachers at 2.1%.

Table 5.207: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V6: Advertising. Kruskal Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	6.2987	0.0429
Teachers		

The Kruskal-Wallis Test in table 5.207 reveals that the difference between the responses of the three specialisations is statistically significant ($P<0.05$), and that the three types in the sample are different from each other (ie. that no one group is solely different from the other two) (table 5.206).

Table 5.208: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V10: Tailoring and design. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Adminsitrators		5	6	7	2	20
% of total		25.0	30.0	35.0	10.0	16.5
Technical Trainers	1	4	6	31	11	53
% of total	1.9	7.5	11.3	58.5	20.8	43.8
Teachers		2	11	21	14	48
% of total		4.2	22.9	43.8	29.2	39.7
Column total	1	11	23	59	27	121
	0.8	9.1	19.0	48.9	22.8	100.0

Table 5.208 reveals that only 9.9% of the sample population strongly disagreed or disagreed with the statement whilst 19% could not make up their minds and 71.6% were in favour of the statement. The table also reveals that more technical trainers

(79.3%) agreed with the statement than teachers (73%) or administrators (65%). There was a higher percentage of unsure amongst administrators at 25.0% than amongst technical trainers at 7.5% and teachers at 4.2%.

Table 5.209: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V10: Tailoring and design. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	7.8006	0.0202
Teachers		

The Kruskal-Wallis Test in table 5.209 shows that the difference between the responses of the three staff specialisations is statistically significant ($P<0.05$). As with the previous table this indicates that the three types in the sample are different from each other (ie. no one group is solely different from the other two).

Table 5.210: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V11: Leather industries. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators		6	5	9		20
% of total		30.0	25.0	45.0		16.5
Technical Trainers	1	5	9	28	10	53
% of total	1.9	9.4	17.0	52.8	18.9	43.8
Teachers		5	9	24	10	48
% of total		10.4	18.8	50.0	20.8	39.7
Column total	1	16	23	61	20	121
	0.8	13.2	19.0	50.4	16.5	100.0

Table 5.210 shows that the majority of respondents strongly agreed or agreed (66.9%) with training (leather industries) while 14% strongly disagreed or disagreed with the statement and 19% could not make up their minds. The table also reveals that more technical trainers (71.73%) than teachers (70.8%) or administrators (45%) agreed or strongly agreed with the statement. There was a higher percentage of unsure amongst administrators at 25% than amongst teachers at 18.8% and technical trainers at 17.5%. Those who opposed were higher among administrators (30.0%) and lower among teachers (10.4%).

Table 5.211: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V11: Leather industries. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	8.1638	0.0168
Teachers		

The Kruskal-Wallis Test in table 5.211 shows that the difference between the responses of the three staff specialisations is statistically significant ($P<0.05$) It is particularly noticeable that a difference exists between administrators and the other two groups (table 5.210).

Table 5.212: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V12: Dockyards and fishing equipment. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	2	6	10	2	20
% of total	10.0	30.0	50.0	10.0	16.5
Technical Trainers	1	7	28	17	53
% of total	1.9	13.2	52.8	32.1	43.8
Teachers		6	23	19	48
% of total		12.5	48.0	39.6	39.7
Column total	3	19	61	38	121
	2.5	15.7	50.4	31.4	100.0

Table 5.212 shows that the majority of respondents (81.8%) strongly agreed or agreed with the statement while only 2.5% disagreed which shows a major skewing of the

data. 15.7% could not make up their minds. More administrators (30%) than technical trainers (13.2%) or teachers (12.5%) were unsure and more teachers supported the statement (87.6%) than technical trainers (84.9%) or administrators (60%). The majority of respondents agreed with having the specialisation of dockyard and fishing equipment within VTE education.

Table 5.213: Q12: To meet the demands of the job market certain fields of specialisation must be emphasised. V12: Dockyard and fishing equipment. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	10.0497	0.0066
Teachers		

The Kruskal-Wallis Test in table 5.213 shows that the difference between the responses of the three staff specialisations is statistically significant ($P<0.01$) Again, it is the administrators' views which differ markedly from those of the other two groups (table 5.212).

Table 5.214: Q14: Languages other than Arabic should be taught in VTE institutions. VI: English. Cross-tabulation, frequency, percentage counts by specialisation.

Variables	Agree	Strongly agree	Row total
Administrators	3	17	20
% of total	15.0	85.0	16.5
Technical Trainers	20	33	53
% of total	37.7	62.3	43.8
Teachers	7	41	48
% of total	14.6	85.4	39.7
Column total	30	91	121
	24.8	75.2	100.0

Table 5.214 shows that all respondents strongly agreed or agreed with having the English language taught in VTE institutions. The absence of the other, more negative, categories is highly significant here. The importance of English is very strong.

Table 5.215: Q14. Languages other than Arabic should be taught in VTE institutions. VI: English. Kruskal Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	8.4034	0.0150
Teachers		

The Kruskal-Wallis Test in table 5.215 suggest that the difference between the responses of the three staff specialisations is statistically significant ($P<0.05$). The difference can be observed here between the technical trainers and the other two

groups (table 5.214), most of the technical trainers have diploma certificates and secondary school certificates and also do not use English Language a lot.

Table 5.216: Q16: Which of the following statements is the most appropriate for the students in VTE. V4: He prefers VTE to an office job. Cross-tabulation, frequency, percentage counts by INST.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	1	21	10	18	5	55
% of total	1.8	38.2	18.2	32.7	9.1	45.5
INST (2)	2	13	4	10	2	31
% of total	6.5	41.9	12.9	32.3	6.5	25.6
INST (3)		1	8	11	4	24
% of total		4.2	33.3	45.8	16.7	19.8
INST (4)	1	3	2	4	1	11
% of total	9.1	27.3	18.2	36.4	9.1	9.1
Column total	4	38	24	43	12	121
	3.3	31.4	19.8	35.5	9.9	100.0

Table 5.216 shows that the percentage of those who agreed with the statement is 45.4%, those disagreeing being 34.9% and 19.8% being unsure. Cross-tabulation shows that in INST (3) 62.5% were more in favour of the statement, whilst 45.5% in INST (4) and 41.8% in INST (1) and in INST (2) 38.8% were in favour of the statement. Conversely, more disagreement was present among INST (2) (48.4%) than INST (1) (40%) or INST (4) (36.4%), with INST (3), the lowest, at 4.2%. There were most unsure respondents amongst INST (3) (33.3%) and the least unsure amongst INST (2) (12.9%). If the number of those who were unsure is added to those who opposed the statement, the percentage is 54.5%, which is higher than the percentage of

those in favour. Thus it can be concluded from the table that a higher percentage of responses to the statement leaned towards the negative.

Table 5.217: Q16: Which of the following statements is the most appropriate for the students in VTE. V4: He prefers VTE to an office job. Kruskal Wallis Test to determine the significance of the distribution of rating scale responses by institutions.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	8.9238	0.0303
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.217 suggests that the difference between the responses of the four institutions is statistically significant ($P<0.05$), a particular difference can be observed between INST (3) and the others (table 5.217).

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.218: Q17: Qatari students try to avoid VTE due to: V1 - the low standard of VTE programmes. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	4	58	15	18	5	100
% of total	4.0	58.0	15.0	18.0	5.0	82.6
Female		10	3	6	2	21
% of total		47.6	14.3	28.6	9.5	17.4
Column total	4	68	18	24	7	121
	3.3	56.2	14.9	19.8	5.8	100.0

Table 5.218 reveals that the percentage of those who disagreed in some degree with the statement was 59.5%, those agreeing being 25.6% and 14.9% being unsure. More male staff than female staff disagreed with the statement (62% and 47.6% respectively) and more females than males supported the statement (38.1% and 23% respectively). There were also more unsure amongst males (15%) than females (14.3%). Thus it can be seen from the table that a higher percentage of respondents opposed the statement, particularly male staff.

Table 5.219: Q17: Qatari students try to avoid VTE due to: V1 - the low standard of VTE programmes. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	850.5	0.1295

The Mann-Whitney U Test in table 5.219 shows that the difference male and female VTE staff is statistically not significant (P>0.05), ie. indicating that the absence of the extremes of feeling is important.

Table 5.220: Q17: Qatari students try to avoid VTE due to: V3 - the low status of VTE due to its manual nature. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	1	23	13	46	17	10
% of total	1.0	23.0	13.0	46.0	17.0	82.6
Female		6	1	9	5	21
% of total		28.6	4.8	42.9	23.8	17.4
Column total	1	29	14	55	22	121
	0.8	24.0	11.6	45.5	18.2	100.0

Table 5.220 reveals that the percentage of those who agreed in some degree with the statement was high (63.7%), the percentage disagreeing being 24.8% and 11.6% being unsure. However, more females in the sample than males supported the statement (65.7% and 63% respectively) and more females rejected the statement than males (28.6% and 24% respectively), leaving more males unsure than females (13% and 4.8 % respectively). Thus it can be seen from the table that a higher percentage of respondents supported the statement even though there was some rejection of it. There was a clear majority of those who agreed.

Table 5.221: Q17: Qatari students try to avoid VTE due to: V3 - the low status of VTE due to its manual nature. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	997.0	0.6998

Table 5.221 shows that the difference between the responses of male and female VTE staff is statistically not significant (P>0.05), indicating a uniformity of response to the statements regardless of gender.

Table 5.222: Q17: Qatari students try to avoid VTE due to: V4 - embarrassment at having to wear an overall. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	1	17	8	54	20	100
% of total	1.0	17.0	8.0	54.0	20.0	82.6
Female	1	1	3	10	6	21
% of total	4.8	4.8	14.3	47.6	28.6	17.4
Column total	2	18	11	64	26	121
	1.7	14.9	9.1	52.9	21.5	100.0

Table 5.222 shows that the percentage of those who agreed in some degree with the statement was high (74.4%), while only 16.6% disagreed with the statement and 9.1% were unsure. More female staff than male staff agreed with the statement (76.2% and 74% respectively) and more males than females disagreed with the statement (18% and 9.6% respectively). There were also more 'unsure' amongst female staff (14.3%) than amongst the male personnel (8%). It can be seen that a high percentage of respondents agreed with the statement.

Table 5.223: Q17: Qatari students try to avoid VTE due to: V4 - embarrassment at having to wear an overall. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	954.0	0.4730

The Mann-Whitney U Test in table 5.223 suggests that the difference between responses for male and female VTE staff is statistically not significant (P>0.05).

Table 5.224: Q17: Qatari students try to avoid VTE due to: V6 - The lack of considerable or attractive privileges. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	1	31	17	39	12	100
% of total	1.0	31.0	17.0	39.0	12.0	82.6
Female		4	2	6	9. 21	121
% of total		19.0	9.5	28.6	42.9	17.4
Column total	1	35	19	45	21	121
	0.8	28.9	15.7	37.2	17.4	100.0

Table 5.224 shows that the percentage of those who agreed in some degree with the statement was 54.6%, while 29.7% disagreed with the statement and 15.7% were unsure. More female staff than male staff agreed with the statement (71.5% and 51% respectively), and more males than females disagreed with the statement (32% and 19% respectively). There were also more unsure amongst male staff than amongst the female personnel (17% and 9.5% respectively). Thus it can be seen that a higher percentage of respondents were in favour of the statement than opposed it and that opposition came more from female than male respondents.

Table 5.225: Q17: Qatari students try to avoid VTE due to: V4 - due to the lack of considerable or attractive privileges. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	696.0	0.0113

The Mann-Whitney U Test in table 5.225 shows that the difference between responses for male and female VTE staff is statistically significant ($P<0.05$), in particular the gender differences between the category of `strongly agree' and `disagree' is noticeable (table 5.224).

Table 5.226: Q18: The media and inter-related agencies have an important role in attracting youth to VTE through - V1: Direct contact. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	1	15	15	47	22	100
% of total	1.0	15.0	15.0	47.0	22.0	82.6
Female			4	6	11	21
% of total			19.0	28.6	52.4	17.4
Column total	1	15	19	53	33	121
	0.8	12.4	15.7	43.8	27.2	100.0

Table 5.226 shows that the percentage of those who agreed in some degree with the statement was high (71%), while 13.2% disagreed with the statement and 15.7% were undecided. Female staff were greater in agreement than male staff (81% and 69% respectively), and only 16% of males opposed the statement. There were also more unsure amongst female staff (19%) than amongst the male personnel (15%). Thus it

can be seen from the table that a majority of respondents were in favour of using direct contact to attract youth to join VTE institutions.

Table 5.227: Q18: The media and inter-related agencies have an important role in attracting youth to VTE through - V1: Direct contact. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	700.0	0.0111

The Mann-Whitney U Test in table 5.227 suggests that the difference between responses for male and female VTE staff is significant ($P<0.05$), indicating that this might be a more attractive or useful means of attracting females than males (table 5.226).

Table 5.228: Q18: The media and inter-related agencies have an important role in attracting youth to VTE through - V3: Journals and newspapers. Cross-tabulation, frequency, percentage counts by gender.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Male	3	4	64	29	100
% of total	3.0	4.0	64.0.	29.0	82.6
Female		1	8	12	21
% of total		4.8	38.1	57.1	17.4
Column total	3	5	72	41	121
	2.5	4.1	59.5	33.9	100.0

Table 5.228 shows that the percentage of those who agreed in some degree with the statement was very high (93.4%), while only 2.5% disagreed with the statement and only 4.1% were unsure. High agreement came from both male (93%) and female

(95.2%) staff and only 3% of males were unsure. Thus it can be seen that a large majority of respondents were in favour of the statement.

Table 5.229: Q18: The media and inter-related agencies have an important role in attracting youth to VTE through - V3: Journals and newspapers. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	757.0	0.0206

The Mann-Whitney U Test in table 5.229 suggests that the difference between responses for male and female VTE staff is statistically significant ($P<0.05$), though it is most apparent that this is between agreement and strong agreement (table 5.228), ie. that it represents in fact a small difference within an already skewed response.

Table 5.230: Q19: VTE institutions suffer from a large number of drop-outs due to: V1: lack of incentives. Cross-tabulation, frequency, percentage counts by institution.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	2	19	9	21	4	55
% of total	3.6	34.5	16.4	38.2	7.3	45.5
INST (2)	1	19	4	5	2	31
% of total	3.2	61.3	12.9	16.1	6.5	25.6
INST (3)		7	3	6	8	24
% of total		29.2	12.5	25.0	33.3	19.8
INST (4)	1	5	1	3	1	11
% of total	9.1	45.5	9.1	27.3	9.1	9.1
Column total	4	50	17	35	15	121
	3.3	41.3`	14.0	28.9	12.4	100.0

Table 5.230 shows that the percentage of sample population who disagreed in some degree with the statement was 44.6%, while 41.3% agreed with the statement, demonstrating little difference between them, and the unsure comprised 14%. The percentage of those who disagreed with the statement was higher amongst the sample population in INST (2) (64.5%) than the other three institutes where INST (4) had 54.6%, INST (1) had 38.1% and INST (3) had 29.2%. There was a higher proportion agreeing with the statement in INST (3) at 58.3%, than in INST (1) with 45.5% and INST (4) with 36.4% and INST (2) with 22.6%. INST (1) had the highest proportion of unsure at 16.4%, and INST (4) had the lowest at 9.1%. Thus it can be seen that the difference between those who agreed and disagreed with the statement was marginal.

Table 5.231: Q19: VTE institutions suffer from a large number of drop-outs due to: V1: lack of incentives. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	10.7474	0.0132
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.231 shows that the difference of opinion between the four institutes is statistically significant ($P<0.05$), indeed one can observe no clear split between the institutions (table 5.231), they were all very different from each other on this issue. Targeting this issue, then, will have to be differentiated.

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.232: Q19: VTE institutions suffer from a large number of drop-outs due to: V2: the low status given to this sort of education. Cross-tabulation, frequency, percentage counts by institution.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	1	17	9	24	4	55
% of total	1.8	30.9	16.4	43.6	7.3	45.5
INST (2)		15	4	9	3	31
% of total		48.4	12.9	29.0	9.7	25.6
INST (3)		2	4	8	10	24
% of total		8.3	16.7	33.3	41.7	19.8
INST (4)	1	4	1	4	1	11
% of total	9.1	36.4	9.1	36.4	9.1	9.1
Column total	2	38	18	45	18	121
	1.7	31.4	14.9	37.2	14.9	100.0

Table 5.232 shows that 52.1% agreed in some degree with the statement, while 33.1% disagreed, and the unsure comprised 14.9%. The percentage of those who agreed with the statement was higher amongst the sample population in INST (3) (75%) than the other three institutes, where INST (1) had 50.9%, INST (4) had 45.5% and INST (2) had 38.7%. There was 48.4% disagreeing with the statement in INST (2), and INST (4) with 45.5% and INST (1) with 32.7% and INST (3) with a lower percentage (8.3%). Thus it can be seen that although there was a majority of respondents agreeing with the statement, there was also a high percentage opposing it.

Table 5.233: Q19: VTE institutions suffer from a large number of drop-outs due to: V2: The low status given to this sort of education. Kruskal-Wallis Test to determine the significance of the distribution or rating scale responses by INST.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	15.0349	0.0018
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.233 shows that the difference of opinion between the four institutes is statistically significant ($P<0.01$). It is INST (3) which appears to be very different from the other three institutions here (table 5.232).

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.234: Q19: VTE institutions suffer from a large number of drop-outs due to: V3: The difficulty of the programmes. Cross-tabulation, frequency, percentage counts by institution.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	1	39	6	7	2	55
% of total	1.8	70.9	10.9	12.7	3.6	45.5
INST (2)	3	19	3	5	1	31
% of total	9.7	61.3	9.7	16.1	3.2	25.6
INST (3)	1	5	7	9	2	24
% of total	4.2	20.8	29.2	37.5	8.3	19.8
INST (4)		9	2			11
% of total		81.8	18.2			9.1
Column total	5	72	18	21	5	121
	4.1	59.5	14.9	17.4	4.1	100.0

Table 5.234 shows that the percentage of the sample population who agreed in some degree with the statement is 21.5%, while 63.6% disagreed and the unsure were 14.9%. A high percentage of INST (4) (81.8%) disagreed with the statement whilst INST (1) scored second at 72.7% and INST (2) at 71% with INST (3) being the lowest of the four institutes at 25%. The highest percentage amongst the agreed category at 45.8%, followed by INST (2) at 19.3% and the lowest being INST (1) at 16.3%. The unsure category was highest in INST (3) with 29.2% and the lowest in INST (2) at 9.7%. From this it can be seen that the majority of respondents disagreed with the statement, and that INST (4) felt very strongly about this issue, with INST (1) second on this dimension. INST (3) appears to have a more even distribution of data than the other institutions.

Table 5.235: Q19: VTE institutions suffer from a large number of drop-outs due to: V3: the difficulty of the programmes. Kruskal-Wallis to determine the significance of the distribution of rating scale responses by Institution.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	16.4970	0.0009
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.235 indicates that the difference of opinion between the four institutes is statistically highly significant ($P<0.001$), indeed the four institutions are very different from each other on this issue, ie there is not one single institution which is exerting a disproportionate effect on the data (table 5.234).

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.236: Q19: VTE institutions suffer from a large number of drop-outs due to: V5: slow rate of promotion after graduation. Cross-tabulation, frequency, percentage counts by institution.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	14	13	21	7	55
% of total	25.5	23.6	38.2	12.7	45.5
INST (2)	5	8	15	3	31
% of total	16.1	25.8	48.4	9.7	25.6
INST (3)	1	2	15	6	24
% of total	4.2	8.3	62.5	25.0	19.8
INST (4)	1	3	6	1	11
% of total	9.1	27.3	54.5	9.1	9.1
Column total	21	26	57	17	121
	17.4	21.5	47.1	14.0	100.0

Table 5.236 reveals that a large percentage of the sample population who agreed in some degree with the statement was 61.1%, while a high percentage of responses were unsure (21.5%). Those who disagreed were 17.4%. More agreement came from INST (3) (87.5%) than INST (4) at 63.6% and INST (2) at 58.1%, with INST (1) being lowest at 50.9%. The highest percentage who disagreed is found in INST (1) at 25.5%, with INST (2) having 16.1%, INST (4) 9.1% and INST (3) 4.2%. INST (4) had the highest proportion of unsure at 27.3% and the lowest was INST (3) at 8.3%. From this it can be seen that the majority of respondents felt that the large drop-out rate was due to the slow rate of promotion after graduation, though noticeable data for INST (1) and INST (2) are evidence of disagreement here.

Table 5.237: Q19: VTE institutions suffer from a large number of drop-outs due to: V5: the slow rate of promotions after graduation. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	9.7286	0.0210
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.237 indicates that the difference of opinion between the four institutes is statistically significant ($P<0.05$). As with table 5.234 the four institutions all differ from each other, indicating a need for a differentiated response to this issue to be offered (table 5.236).

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.238: Q19: VTE institutions suffer from a large number of drop-outs due to: V6: The relatively easy access to public sector jobs due to the small indigenous population. Cross-tabulation, frequency, percentage counts by institution.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)	1	10	12	26	6	55
% of total	1.8	18.2	21.8	47.3	10.9	45.5
INST (2)		5	8	15	3	31
% of total		16.1	25.8	48.4	9.7	25.6
INST (3)		4	5	10	5	24
% of total		16.7	20.8	41.7	20.8	19.8
INST (4)	1	3	1	3	3	11
% of total	9.1	27.3	9.1	27.3	27.3	9.1
Column total	2	22	26	54	17	121
	1.7	18.2	21.5	44.6	14.0	100.0

Table 5.238 indicates that the percentage of the sample population who agreed in some degree with the statement is 58.6%, while 19.9% disagreed and the unsure were 21.5%. A high percentage of INST (3) (62.5%) agreed with the statement whilst INST (1) scored second at 58.2% and INST (2) being the lowest of the four institutes at 16.1%.Those who did not make their mind up was highest amongst INST (2) at 25.8% and lowest at 9.1% among INST (4). From this it can be seen that the majority of respondents agreed with the statement.

Table 5.239: Q19: VTE institutions suffer from a large number of drop-outs due to: V6: the relatively easy access to public sector jobs due to the small indigenous population. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	0.6657	0.8812
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.239 indicates that the difference of opinion between the four institutes is not statistically significant ($P>0.05$), i.e. that there was a uniformity of response on this issue, though INST (4) has some important differences from the other three (table 5.238).

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.240: Q19: VTE institutions suffer from a large number of drop-outs due to: V7: failure of the facilities and standards of teaching encouraging students to continue their studies. Cross-tabulation, frequency, percentage counts by specialisations.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Administrators	1	10	3	6		20
% of total	5.0	50.0	15.0	30.0		16.5
Technical Trainers	4	34	9	4	2	53
% of total	7.5	64.2	17.0	7.4	3.8	43.8
Teachers	9	31	4	3	1	48
% of total	18.8	64.6	8.3	6.3	2.1	39.7
Column total	14	75	16	13	3	121
	11.6	62.0	13.2	10.7	2.5	100.0

Table 5.240 reveals that the percentage of the sample population who disagreed in some degree with the statement was 73.6%, while 13.2% agreed and the unsure were 13.2%. The table also shows that 83.4% of teachers disagreed with the statement whilst 71.7% of technical trainers and 55% of administrators also disagreed with the statement. There were more administrators in favour of the statement (30%) than technical trainers (11.2%) and teachers (8.4%). Technical trainers showed the highest percentage (17%) of 'unsure', and the lowest with 8.3% was teachers. The table shows that the majority of those questioned disagreed with the statement.

Table 5.241: Q19: VTE institutions suffer from a large number of drop-outs due to: V7: failure of the facilities and standards of teaching encouraging students to continue their studies. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by specialisation.

Variables	Chi-square (Corrected for ties)	Significance
Administrators		
Technical Trainers	7.9439	0.0188
Teachers		

The Kruskal-Wallis Test in table 5.241 suggests that the difference of opinion between the three specialisations is statistically significant ($P<0.05$). It appears that the responses of the administrators differ from the other two here (table 5.240).

Table 5.242: Q21: Graduates to VTE do not work in their field due to: V1 - low salaries. Cross-tabulation, frequency, percentage counts by institution.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
INST (1)		18	6	26	5	55
% of total		32.7	10.9	47.3	9.1	45.5
INST (2)	3	13	4	10	1	31
% of total	9.7	41.9	12.9	32.3	3.2	25.6
INST (3)		3	7	10	4	24
% of total		12.5	29.2	41.7	16.7	19.8
INST (4)		7	2	1	1	11
% of total		63.6	18.2	9.1	9.1	9.1
Column total	3	41	19	47	11	121
	2.5	33.9	15.7	38.8	9.1	100.0

Table 5.242 shows that 47.9% of the sample population agreed to some extent with the statement, while 36.4% disagreed and the unsure were 15.7%. Agreement was higher amongst INST (3) (58.4%) whilst INST (1) scored second at 56.4% and INST (2) at 35.5% and INST (4) being the lowest of the four institutes at 18.2%. Whilst one can observe that even the majority of responses agreed with the statement, there was a high percentage who disagreed.

Table 5.243: Q21: Graduates to VTE do not work in their field due to: V1 - low salaries. Kruskal-Wallis Test to determine the significance of the distribution of rating scale responses by Institute.

Variables	Chi-square (Corrected for ties)	Significance
INST (1)		
INST (2)	11.8883	0.0078
INST (3)		
INST (4)		

The Kruskal-Wallis Test in table 5.243 suggests that the difference of opinion between the four institutes is statistically significant ($P<0.01$). One can observe that the institutions all differ from each other on this issue, it is not the case of any one institution above differing from the others (table 5.242).

Key:
INST (1) : Industrial School and Regional Training Centre
INST (2) : Commercial School and Qatar General Petroleum Corporation (training centre)
INST (3) : Nursing Institutions and Health Inspection Institutions
INST (4) : Technology College

Table 5.244: Q21: Graduates to VTE do not work in their field due to: V2: its low status. Cross-tabulation, frequency, percentage counts by gender.

Variables	Disagree	Unsure	Agree	Strongly agree	Row total
Male	28	12	52	8	100
% of total	28.0	12.0	52.0	8.0	82.6
Female	2	6	6	7	21
% of total	9.5	28.6	28.6	33.3	17.4
Column total	30	18	58	15	121
	24.8	14.9	47.9	12.4	100.0

Table 5.244 shows that the majority (60.3%) strongly agreed or agreed with the statement while 24.5% disagreed and 14.9% were unsure. A high percentage of agreement comes from males (60%) with females being 51.9%. More males disagreed (28%) than females (9.5%) and more females were unsure than males (28.6% and 12% respectively). Both males and females agreed with the statement, indeed there is an absence of representation in the category of `strongly disagree'.

Table 5.245: Q21: Graduates to VTE do not work in their field due to: V2: its low status. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	800.0	0.0665

The Mann-Whitney U Test in table 5.245 suggests that a significant difference of opinion does not exist between the VTE staff (P>0.05).

Table 5.246: Q21: Graduates to VTE do not work in their field due to: V3: the availability of other jobs in the public sector. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	1	11	16	58	14	100
% of total	1.0	11.0	16.0	58.0	14.0	82.6
Female		3	1	4	3	21
% of total		14.3	4.8	19.0	14.3	17.4
Column total	1	14	17	72	17	121
	0.8	11.6	14.0	59.5	14.0	100.0

Table 5.246 indicates that the overwhelming majority (63.5%) strongly agreed or agreed with the statement while 12.4% disagreed and 12.4% were unsure. A high percentage of agreement came from males (72%) with females being 33.3%. More females disagreed (14.3%) than males (12%) and more males were unsure than females (16% and 4.3% respectively). Both males and females agreed with the statement that VTE graduates do not work in their field because of the availability of other jobs in the public sector.

Table 5.247: Q21: Graduates to VTE do not work in their field due to: V3: VTE graduates do not work in their field because of the availability of other jobs in the public sector. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	983.5	0.6069

The Mann-Whitney U Test in table 5.247 suggests that the difference of opinion between male and female VTE staff is not significant (P>0.05), i.e. a large majority of both males and females agreed with the statement.

Table 5.248: Q21: Graduates to VTE do not work in their field due to: V4: the belief that such jobs should be done by foreigners. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	3	30	20	37	10	100
% of total	3.0	30.0	20.0	37.0	10.0	82.6
Female	1	3	2	10	5	21
% of total	4.8	14.3	9.5	47.6	23.8	17.4
Column total	4	33	22	47	15	121
	3.3	27.3	18.2	38.8	12.4	100.0

Table 5.248 shows that a majority (51.2%) of the population strongly agreed or agreed with the statement while 30.5% disagreed and 18.2% were unsure. A high percentage of those who disagreed with the statement came from the male respondents (33.6%) compared to females at 19.1%. Amongst the males those who were unsure were 20% and females 9.2%. Conversely, more females agreed with the statement than males (71.4% and 47% respectively). Thus the table shows that whilst a majority agreed with the statement there was a high percentage who disagreed.

Table 5.249: Q21: Graduates to VTE do not work in their field due to: V4: The belief that such jobs should be done by foreigners. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	768.5	0.0438

The Mann-Whitney U Test in table 5.249 suggests that the difference of opinion between male and female VTE staff is significant ($P<0.05$), this is particularly noticeable in all categories of the Likert scale apart from 'strongly disagree' (table 5.248).

Table 5.250: Q26: The role of women in the field of VTE: V4: women must stay at home and look after the children. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	5	11	19	48	17	100
% of total	5.0	11.0	19.0	48.0	17.0	82.6
Female		2		8	11	21
% of total		9.5		38.1	52.4	17.4
Column total	5	13	19	56	28	121
	4.1	10.7	15.7	49.3	23.1	100.0

Table 5.250 shows that a majority (72.4%) strongly agreed or agreed with the statement while 14.8% disagreed and 15.7% were unsure. A high percentage of those who agreed with the statement came from the female respondents (90.5%) compared to males at 65%. Conversely, more males disagreed with the statement than females

(16% and 9.5% respectively). The table shows that a majority agreed with the statement.

Table 5.251: Q26: The role of women in the field of VTE: V4: women must stay at home and look after the children. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	660.5	0.0011

The Mann-Whitney U Test in table 5.251 suggests that the difference of opinion between male and female VTE staff is highly significant ($P<0.01$). This was evident on all categories of the Likert scale apart from `disagree' (table 5.250).

Table 5.252: Q26: The role of women in the field of VTE: V6: mixing women and men in the workplace is unacceptable, hence women should not participate. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	8	19	13	42	18	100
% of total	8.0	19.0	13.0	42.0	18.0	82.6
Female		1		10	10	21
% of total		4.8		47.6	47.6	17.4
Column total	8	20	13	52	28	121
	6.6	16.5	10.7	43.0	23.1	100.0

Table 5.252 shows that a majority (66.1%) strongly agreed or agreed with the statement while 23.1% disagreed and 10.7% were unsure. If columns 4 and 5 are combined, those who agreed with the statement were the female respondents (95.2%) compared to males (60%). Very few female respondents disagreed (4.8%) compared

to males at 27%. Thus the table shows that a majority agreed with the statement, especially females. Indeed the females appeared to feel very strongly about this issue.

Table 5.253: Q26: The role of women in the field of VTE: V6: mixing women and men in the workplace is unacceptable, hence women should not participate. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	562.5	0.0004

The Mann-Whitney U Test in table 5.253 suggests that the difference of opinion between male and female VTE staff is highly significant ($P<0.001$).

Table 5.254: Q26: The role of women in the field of VTE: V7: allocating 'women only' may encourage participation in VTE by women. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	7	37	13	29	14	100
% of total	7.0	37.0	13.0	29.0	14.0	82.6
Female	2	12	5	2		21
% of total	9.5	57.1	23.8	9.5		17.4
Column total	9	49	18	31	14	121
	7.4	40.5	14.9	25.6	11.6	100.0

Table 5.254 shows that 47.9% strongly disagreed or disagreed with the statement while 40.5% agreed and 14.9% were unsure. However, more female staff strongly disagreed or disagreed with the statement (66.6%) than male staff (44%). On the other hand, a higher percentage of males than females agreed with the statement (43% and 9.5% respectively). More females were unsure than males (23.8% and 13%

respectively). Thus the table shows that there was no great difference between the sexes in answering the question.

Table 5.255: Q26: The role of women in the field of VTE: V7: allocating 'women only' may encourage participation in VTE by women. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	708.5	0.0144

The Mann-Whitney U Test in table 5.255 suggests that the difference of opinion between male and female VTE staff is statistically significant ($P<0.05$), refuting the apparent lack of gender differentiated responses noted in table 5.254.

Table 5.256: Q26: The role of women in the field of VTE: V8: Traditions prohibit women from performing such jobs. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	33	49	9	8	1	100
% of total	33.0	49.0	9.0	8.0	1.0	82.6
Female	2	10	2	4	3	21
% of total	9.5	47.6	9.5	19.1	14.3	17.4
Column total	35	59	11	12	4	121
	28.9	48.8	9.1	9.9	3.3	100.0

Table 5.256 shows that 77.7% strongly disagreed or disagreed with the statement while 13.2% agreed and 9.1% were unsure. More male respondents disagreed (82%) than females (57.1%) and more females were in agreement than males (28.6% compared to 9%). Thus the table shows that there was a majority disagreeing with the statement, especially males.

Table 5.257: Q26: The role of women in the field of VTE: V8: Traditions prohibit women from performing such jobs. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	640.5	0.0025

The Mann-Whitney U Test in table 5.257 suggests that the difference of opinion between male and female VTE staff is statistically highly significant ($P<0.01$).

Table 5.258: Q26: The role of women in the field of VTE: V12: The participation of women may help reduce the dependence on foreign workers. Cross-tabulation, frequency, percentage counts by gender.

Variables	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Row total
Male	6	13	10	52	19	100
% of total	6.0	13.0	10.0	52.0	19.0	82.6
Female	1	1	1	8	10	21
% of total	4.8	4.8	4.8	38.1	47.6	17.4
Column total	7	14	11	60	29	121
	5.8	11.6	9.1	49.6	24.0	100.0

Table 5.258 shows that 73.6% strongly agreed or agreed with the statement while 17.4% disagreed and 9.1% were unsure. A high percentage of female staff agreed with the statement (85.7%) while (71%) of males also agreed with it. On the other hand, a higher percentage of males than females disagreed with the statement (19% and 9.6% respectively) and also more male staff were unsure than females (10% and 4.8% respectively). Thus the table shows that a majority of the respondents agreed with the statement.

Table 5.259: Q26: The role of women in the field of VTE: The participation of women may help reduce the dependence on foreign workers. Mann-Whitney U Test to determine the significance of the distribution of rating scale responses by gender.

Variables	U-value	Significance
Male		
Female	715.5	0.0137

The Mann-Whitney U Test in table 5.259 suggests that the difference of opinion between male and female VTE staff is statistically significant ($P<0.05$).

One can observe in these last five sets of data that women and men differed significantly from each other in their views and that women felt very strongly about these issues - evidenced in the low incidence of the `unsure' category, the skewing of results, and the high levels of statistical significance computed.

Correlational Data from the Staff Questionnaire

The Spearman Correlation Coefficient was calculated to identify the degree of association between certain ordinal variables of this study:

1. The low standard of teaching and training due to the lack of staff qualification, experience, training courses attended correlated with knowledge about the programmes offered by VTE institutions.
2. Qatari teachers and trainers try to avoid working in VTE due to the lack of interest in this sector of education, correlated with low financial incentives and the low status of VTE.

The results of these correlations will be discussed in Chapter (6). For these data N=100 (males) and N-21 (females).

Table 5.260: Spearman Correlation Cofficients of responses of staff male and female of VTE in Qatar regarding of qualification, experience, training courses attended and knowledge about the programmes offered by VTE institutions also the statues of VTE in Qatar. N=121.

Correlated items	Description of items	Correlation Coefficient	Significance Level
Qualification page 493 with Knowledge page 495	Qualification. How well do you feel that you know the programmes offered by VTE institutions?	0.0497	0.297
Institutions page 495 with total training page 493	Institutions in which you are currently working. Number of training courses attended.	0.1151	0.104
Previous experience page 494 with Q4V1page 498	Previous experience. The applicant to VTE should have practical experience in the field.	0.0698	0.224
Q2V1page 495 with Q2V3 page 496	VTE is given high status in the educational system in the state of Qatar. Officials who are responsible for VTE are aware of the role of VTE for the development of human resources.	0.5277	0.000
Q2V1page 495 with Q2V5 page 496	VTE is given high status in the educational system in the state of Qatar. VTE has as much prestige as general academic education in Qatar.	0.2305	0.005
Q2V5 page 496 with Q2V6 page 496	VTE is given high status in the educational system in the state of Qatar. VTE is more desirable than other academic education.	0.3779	0.000

Q2V2 page 495 with Q2V7 page 496	VTE is important for human resources (e.g. skill) development. VTE is necessary to develop the society of Qatar.	0.3011	0.000
Q2V2 page 495 with Q3V1page 496	VTE is important for human resources (e.g. skill) development. Adopting the most advanced methods like interaction between education and world of work.	0.2471	0.003
Q2V7 page 496 with Q3V5 page 497	VTE is necessary to develop the society of Qatar. Encouraging the integration and strengthening the relationship between VTE and general education.	0.2584	0.002
Q2V7 page 496 with Q3V6 page 497	VTE is necessary to develop the society of Qatar. Developing VTE plans linking with the job market demand.	0.3271	0.000
Q3V1page 496 with Q3V3 page 496	Adopting the most advanced methods like interaction between education and world of work. Allocation of enough financial resources to develop the VTE.	0.3825	0.000
Q7V1page 500 with Q7V2 page 500	The lack of interest in this sector of education. The lack of financial incentives.	0.0432	0.319
Q7V2 page 500 with Q7V5 page 500	The lack of financial incentives. Because the time which is spent in teaching and training is very long.	0.1890	0.019

Q7V3 page 500 with Q7V4 page 500	The low status of VTE. The low promotion in this sector.	0.5942	0.000
Q7V3 page 500 with Q8V2 page 500	The low status of VTE. The appropriate starting salary of 6000-6999 Riyals/month.	0.1936	0.017
Q7V4 page 500 with Q8V7 page 501	The slow promotions in this sector. The appropriate starting salary of over 11,000 Riyals per month.	0.2024	0.013
Q7V5 page 500 with Q8V7 page 501	Because the time which is spent in teaching and training is very long. The appropriate starting salary of over 11,000 Riyals per month.	0.1897	0.019

One can observe a fluctuation in the significance levels of the coefficients, from $p>0.05$ to $p>0.0001$. Particularly high correlations can be observed in issues of the status of VTE and its role in Qatar's development. There were only four coefficients out of the seventeen computed which were not statistically significant. Six of the coefficients were highly significant ($p<0.0001$).

One can draw several conclusions from the correlational data:

1. Staff of VTE believed that officials whom are responsible for VTE are aware of the role of VTE in the development of human resources but that this type of education is given less prestige than academic education.
2. Staff of VTE were very aware of the role of VTE in the development of human resources as necessary for the development of Qatari society.
3. Staff of VTE believed strongly that human resources could be developed through advancing the integration of education and the world of work.
4. VTE staff believed that the low status of VTE might be because of lack of financial incentives.

5. The low status of VTE might be because of the low promotion rate in this sector.
6. The VTE staff felt that any salary paid by the Government will not satisfy their efforts.
7. The VTE staff indicated the need for the integration of VTE and general education.
8. The VTE staff indicated that VTE had to be worked to the demands of the jobs market.

It can be said that with all the attention given to raising awareness of the role of VTE in developing human resources in the state of Qatar, it is still considered less desirable and has little prestige in comparison to general academic education in Qatar. One can see that VTE staff believed that integration of VTE and general education is very important in the development of Qatari society and consequently necessary for the demands of the job market. More discussion of this will be undertaken in the next chapter.

Summary of findings from the Staff Questionnaire

The major findings of the staff questionnaire are as follows:

1. A majority of VTE staff (55.3%) indicated that VTE is given high status in the educational system in the state of Qatar.
2. A total of 67.0% of the staff revealed that VTE has as much prestige as general academic education in Qatar.
3. A vast majority of VTE staff (94.2%) indicated that adopting the most advanced methods such as integration of education and world of work could be useful for VTE.
4. Almost half of the responses were in favour of having one single authority which is not the Ministry for Education or any other ministry to control or oversee all VTE institutions.

5. A majority of VTE staff (91.7%) agreed with the value of preparing programmes and educational advice for students to join VTE post school.
6. A vast majority of staff (95.9%) indicated that they should be encouraging the integration and strengthening of the relationship between VTE and general education.
7. 95.9% of the responses indicated that developing plans for VTE should be linked with the demands of the job market.
8. A majority (76.9%) of staff agreed that VTE suffers from a shortage of Qatari teachers or trainers because of a lack of interest by Qatari nationals in this sector of education.
9. Almost half of the responses (48.7%) revealed that VTE suffers from a shortage in Qatari teachers and trainers because of the lack of financial incentives in this sector of education.
10. Almost half of the responses (49.6%) believed that the shortage was due to the low status of VTE.
11. More than half (55.4%) believed that the shortage of Qatari teachers and trainers was due to slow promotion in this sector.
12. 62.0% of the staff believed that the buildings and workshops and laboratories of VTE were unable to fulfil their role because of the tools and machines available.
13. A majority of the staff (63.7%) believed that the Qatari students tried to avoid VTE duties. The low status of VTE was due to its manual nature.
14. 74.4% believed that students tried to avoid VTE due to the embarrassment of wearing overalls.
15. More than half of VTE staff (52.1%) indicated that VTE institutions suffered from a large number of drop outs due to the low status given to this type of education.
16. A majority of VTE staff (58.6%) believed that VTE suffered from a large number of drop outs due to the relatively easy access to the public sector jobs, in turn due to the small indigenous population.

17. 51.2% of the staff believed that the graduates from VTE did not work in their field of study due to the belief that these jobs could be done by foreigners.
18. A majority of the staff (72.4%) believed that women should stay at home and look after children.
19. A total of 66.1% of the staff indicated that mixing women with men was unacceptable, hence women should not participate in the field of VTE.
20. A majority (73.6%) of the staff believed that the participation of women might help reduce the dependence on foreign workers.
21. 80.2% of the VTE staff indicated that the officials who were responsible for VTE were aware of the role of VTE for the development of human resources.
22. A vast majority of VTE staff (85.1%) were in favour of opening more VTE institutions.
23. A vast majority of VTE staff (92.6%) indicated that the applicants for VTE should have practical experience in the field.
24. More than half (62.6%) insisted that the staff applicants for VTE must have a degree, regardless of the appropriateness of the subject.
25. 88.5% of the staff were against the view that if a post were vacant it should be filled, regardless of qualifications.
26. A vast majority (97.6%) of the respondents believed that the teaching performance of teachers should be taken into consideration in selection.
27. 95.1% of the respondents agreed that the applicant should be required to pass several tests to assess his/her abilities.
28. A total of 83.5% of the staff believed that a number of compulsory training courses were required for VTE teachers and trainers.
29. A majority of the staff (95.9%) indicated that in order to prepare teachers and trainers VTE institutes should increase incentives.
30. 72.8% believed that in order to prepare teachers and trainers for VTE institutes their knowledge should be tested from time to time.

31. A majority of the staff (95.9%) agreed that preparing teachers and trainers of VTE should include sending them abroad to acquire the most recent techniques in VTE.
32. 62.8% agreed that sending a teacher or trainer abroad for training courses must be for Qatari nationals.
33. 95.9% believed that sending teachers and trainers abroad for training courses should be organised according to the need of the specialisation.
34. 89.3% indicated that sending staff abroad for training courses should be for those who have an excellent work record.
35. More than half of the staff (58.6%) believed that the monthly starting salary of 5000-5999 Riyals was not appropriate for their efforts.
36. 64.5% of the staff strongly disagreed that over 11,000 Riyals was an appropriate salary for their efforts.
37. 59.8% of the staff indicated that the buildings, workshops and laboratories of VTE were unable to fulfil their role because the buildings were old and could not be modernised.
38. 62% of VTE staff revealed that buildings, workshops and laboratories of VTE were unable to fulfil their role because the tools and machines in use were obsolete.
39. Almost half of the staff (48.7%) disagreed with the statement that VTE programmes did not meet the demands of the job market due to over-emphasising the theoretical side.
40. 41.3% revealed that buildings, workshops and laboratories of VTE were unable to fulfil their role due to lack of modern equipment such as computers and typewriters which is more than those who disagreed 39.7%.
41. 43.8% of the staff disagreed with the statement that VTE programmes did not meet the demands of the job market due to the job market demanding specialisations that were unavailable in those institutions and those who agreed were 38%.

42. Almost half of the staff (50.4%) opposed the view that VTE programmes did not meet the demands of the job market due to the fact that VTE was related to the country's economic needs.
43. 84.3% of the staff were in favour of having a construction specialisation in order to meet the demands of the job market.
44. A majority of the staff (84.3%) agreed with having a marketing specialisation to meet the demands of the job market.
45. The vast majority of staff (95.1%) agreed with training computer technicians to meet the demands of the job market.
46. (71.1%) of the VTE staff were in favour of having an advertising specialisation to meet the demands of the job market.
47. (71.6%) of VTE staff were in favour of having tailoring and design specialisations to meet the demands of the job market.
48. The majority of VTE staff (81.8%) indicated the need to have dockyards and fishing equipment specialisations to meet the demands of the job market.
49. All respondents of VTE staff (100%) agreed with teaching the English language with Arabic in VTE institutions.
50. 45.4% of the staff preferred VTE occupations to office jobs.
51. 54.6% believed that Qatari students tried to avoid VTE due to the lack of considerable or attractive advantages.
52. 71.0% of the staff believed that using direct contact was the most useful means of attracting youth to VTE.
53. The vast majority of VTE staff (71%) believed that journals and newspapers were the most attractive means for youth to join VTE institutions.
54. The majority of VTE staff (55.4%) agreed with the view that VTE institutions suffered from a large number of dropouts due to lack of incentives.
55. 63.6% of the VTE staff disagreed with the statement which said that VTE institutions suffered from a large number of dropouts due to the difficulty of the programmes.

56. 61.1% of the staff agreed that VTE institutions suffered from a large number of dropouts due to the slow rate of promotion after graduation..
57. A majority of the staff (73.6%) disagreed that VTE institutions suffered from a large number of dropouts due to the failure of the facilities and standards of teaching aimed at encouraging the students to continue their studies.
58. 47.9% of the stff believe that graduates of VTE did not work in their field due to low salaries.
59. 60.3% of the respondents believed that graduates of VTE did not work in their field due to its low status.
60. A majority of the VTE staff (63.5%) agreed that graduates of VTE did not work in their field due to the availability of other jobs in the public sector.
61. A majority of VTE staff (77.7%) disagreed with the view that traditions prohibited women from performing such jobs.

It can be concluded from the data that there are major issues which challenge the policy makers and planners and there should be greater prioritisation of targets which must be considered when they are planning for vocational and technical education. These include:

1. A shared view of vocational occupation and the types of work that the Qatari people prefer and the removal of the misconceptions of vocational and technical training held by society in general.
2. The need for vocational and technical education to co-operate and encourage the higher education leaders to recognise vocational and technical education diplomas and to encourage enrolment in further education.
3. The remediation of the lack of counselling services in intermediate schools to provide students with more information about vocational and technical education programmes and their importance for the country's economic development.
4. The opening up of opportunities for women.

The main findings of the nominal variables: Gender, Nationality, Specialisation and Institution.

1. Gender

- More male staff than female staff were likely to be in agreement with the statement which said "VTE is given high status in the educational system in the state of Qatar".
- Male staff registered more disagreement than female staff, with the view that there should be one single authority for all VTE institutions which is not the Ministry of Education or any other ministry. There was overall agreement with this view.
- Both male and female staff believed that "women must stay at home and look after the children", but more female than male staff agreed.
- A total of 66.1% of VTE staff agreed that "mixing women and men in the workplace is unacceptable, hence women should not participate". More males were in agreement with this than females.
- Almost half of VTE staff agreed that "allocating places for women only may help women's participation". More males agreed with this than females.

2. Nationality

Key:

A. Nat (1): 1 - Qatari, 3 - Palestinian, 4 - Egyptian, 6 - Jordanian.

B. Nat (2): 2 - Gulf Co-operation Council, 5 - Sudanese, 7 - Syrian, 8 - Tunisian, 9 - Lebanese.

- A majority of VTE Nat(1) and Nat(2) were more in favour of the view that "selecting teachers and trainers of VTE institutions to be sent abroad for training courses must be according to the needs of the specialisation".
- A total of 89.3% of VTE Nat(1) and Nat(2) agreed with the proposal for "sending abroad for training courses those who have an excellent work record".

- A majority of VTE Nat (1) and Nat (2) agreed that encouraging the integration of and strengthening of the relationship between VTE and general education will develop VTE.
- A total of 62.8% of the VTE staff from Nat(1) and Nat(2) strongly agreed with the proposal that "teachers and trainers of VTE institutions to be sent abroad for training courses must be Qatari citizens".

3. Specialisation

Key:

A. Administrator, B. Technical Trainer, C. Teacher.

- All specialisations strongly agreed that "VTE has as much prestige as general academic education in Qatar".
- All specialisations were strongly in favour of "preparing programmes and educational advice to the students to join VTE post-school".
- A total of 95.9% of all specialisations agreed strongly with developing VTE plans which were linked to the demands of the job market.
- The three specialisations strongly believed that "applicants to VTE schools should have practical experience in the field".
- All specialisations strongly disagreed that "if the post is vacant it should be filled regardless of qualification".
- A majority of specialisations of VTE staff believed that "the teaching performance of teachers should be taken into consideration in selection".
- A strong agreement came from all VTE staff with the view that "a number of compulsory training courses are required for VTE teachers and technical trainers".
- All specialisations strongly agreed with "increasing incentives to prepare teachers and trainers of VTE, especially among technical trainers".

- All specialisations believed that any suggested "salary even if it is 11,000 Riyals will not satisfy the effort made by them".
- Almost half of the respondents from different specialisations disagreed with the view that "VTE programmes do not meet the demands of the job market because of over-emphasising the theoretical side."
- There was a higher proportion of administrators than technical trainers or teachers who disagreed with the statement that "the job market demands specialisations that are unavailable in those institutions".
- Half of the respondents from different specialisations disagreed with the view that "VTE is not related to the country's economic needs".
- Administrators agreed particularly with the need "to have a construction specialisation to meet the demands of the job market".
- All specialisations strongly agreed with the need "to have a marketing specialisation to meet the demands of the job market".
- A higher percentage of undecided respondents came from among the administrators to the need to have "tailoring and designing specialisations to meet the job market demands".
- A majority of administrators, technical trainers and teachers strongly opposed having "leather industries to meet the job market demands".
- All specialisations supported the need to have "dockyards and fishery equipment specialisations to meet the job market demands".
- All specialisations strongly agreed with having "English language taught in VTE institutions".
- More administrators than technical trainers or teachers agreed that "VTE institutions suffer from a large number of dropouts because of the failure of the facilities and standards of teaching to encourage students to continue their studies".

4. Institutions

Key:

A. Inst (1): Industrial School, Regional Training Centre.

B. Inst (2): Commercial School, Qatar General Petroleum Corporation (Training Centre).

C. Inst (3): Nursing Institute, Health Inspection Institute.

D. Inst (4): Technological College.

- All institutions agreed that "officials who are responsible for VTE are aware of the role of VTE for the development of human resources".
- A majority of respondents in all institutions strongly believed that "VTE is not more desirable than other academic education". More unsure respondents were found amongst Inst (1).
- Inst (1) agreed more than the others that "the buildings, workshops and laboratories of VTE are unable to fulfil their role because the tools and machines used are obsolete."
- All institutions agreed that "the buildings, workshops and laboratories are unable to fulfil their role because the workshops are not equipped and organised properly". This was especially the case amongst Inst (1) and Inst (4).
- More respondents from Inst(1) and Inst(4) than from Inst(2) or Inst(3) agreed with the view that "the buildings are old and cannot accommodate modernisation".
- Institutions (2), (3) and (4) agreed with the view that laboratories are not well equipped with scientific instruments, with a high emphasis on this coming from Inst(1).
- Almost half of the responses in all Institutions agreed with the view that "students in VTE institutions prefer desk jobs to vocational occupations".
- A total of 44.6% of all institutions disagreed with the view that VTE suffers from a large number of drop out due to the slow rate of promotion after graduation; a total of 41.3% agreed with the statement.

- Almost half of the respondents mentioned that the large number of drop outs was due to the low status given to this type of education. Agreement with this view was highest in Inst (3).
- A total of 63.6% of all of the Institutions disagreed that the large number of drop outs was due to the difficulty of the programmes, greatest disagreement with this view coming from Inst (4).
- A total of 58.6% of all Institutions supported the view that the large number of dropouts was due to the relatively easy access to public sector jobs due to the small indigenous population. Inst (3) responded with the highest agreement with this view.
- Almost half of the respondents in all the Institutions agreed with the view that the large number of dropout was due to low salary after graduation.

These results will be discussed in the next chapter.

5.5 Correlation of data from Staff and Student Questionnaires

The Pearson Correlation was calculated to reveal correlations between Staff and Students of VTE in respect of a number of research questions of the study, for example: the low participation of women in VTE is due to the traditions which prohibit women from performing such jobs, and Qatari students prefer VTE to general academic schools. The Pearson Correlation Coefficients show the degree of association between different responses of VTE students and staff to the same questions (Q10 and Q26) (The role of women in the field of VTE), and also between students and staff to the same questions (Q5 and Q15) (Many Qatari students join VTE) (N=345). These items serves the following research objectives:

a- Identify differences in attitudes towards the participation of women in the VTE.

b- The reason for joining VTE.(male and female)

Table 5.261: Correlation of responses of staff and students relating to the participation of women in VTE in Qatar. (N:345)

Correlated Items	Items description	Correlation Coefficient	Significance Level
Q10V1 page 470 with Q26V1 page 513	Enabling women to participate in VTE may help increase workforce	0.735	P=0.01
Q10V2 page 470 with Q26V2 page 513	Women are naturally incapable of performing such jobs	0.664	P=0.05
Q10V4 page 471 with Q26V4 page 513	Women must stay at home and look after children	0.0925	P=0.01
Q10V6 page 471 with Q26V6 page 513	Mixing women with men is unacceptable hence women should not participate	0.911	P=0.01
Q10V7 page 471 with Q26V7 page 513	Allocation of places for women only may help women's participation	0.769	P=0.01
Q10V8 page 471 with Q26V8 page 513	Traditions prohibit women from performing such jobs	0.284	N.S.
Q10V10 page 471 with Q26V10 page 514	Women are not allowed to work in certain areas by religion	0.778	P=0.01
Q10V12 page 471 with Q26V12 page 514	The participation of women may help reduce the dependence on foreign workers	0.940	P=0.01
Q5V1 page 466 with Q15V6 page 508	The need for money	0.429	N.S.
Q5V2 page 466 with Q15V3 page 507	Because the general academic subjects in schools are difficult	0.358	N.S.
Q5V4 page 466 with Q15V5 page 508	A desire to reduce the dependence on foreign workers	0.094	N.S.
Q5V5 page 466 with Q15V4 page 507	Availability of jobs after graduation	0.773	P=0.01
Q5V6 page 466 with Q15V7 page 508	To join a friend already in such an institution	0.036	N.S.
Q5V7 page 466 with Q15V8 page 508	Because you failed in general academic school	0.705	P=0.02

Key: N.S.= Not significant

One can observe that only five correlations out of the fourteen computed (36%) were not-significant coefficients, and that 50% of the coefficients were significant at the 0.01 level, indicating a high incidence of shared perceptions between staff and students.

The finding of Pearson's correlation coefficient showed that:

1. There are both similar and different attitudes toward the role of women in the field of VTE between staff and students. This finding demonstrated that neither staff nor students can come to agreement on all matters relating to women at least at the present time.
2. The results of the correlation between staff and students of VTE about the reasons behind Qatari students joining VTE showed that there is no significant difference between staff and students.
3. Staff and students have no differences between them that joining VTE will help reduce the dependence on foreign workers.
4. Both staff and students disagree that students joined VTE because they had friends already in such an institution.
5. The results of the correlation between staff and students of VTE concerning students joining VTE because of failed in general academic school showed that there is significant difference between them.

The implications and significance of the data reported in this chapter will be discussed in chapters six and seven.

Chapter Six

Discussion and Interpretation: Towards a New Policy for Qatari Vocational and Technical Education

In this chapter the major findings of the study are discussed and related to studies of vocational and technical education in selected industrial countries such as the UK, Germany, Japan and the USA, as well as other developing Arab and non-Arab countries such as Saudi Arabia, Kuwait, Egypt and Brazil. Industrial countries like Japan, Germany, UK, USA and others enjoy different circumstances from those in Qatar in political, social and economic aspects. Also, their training programme designs are affected by certain contextual, local and national factors such as political, socio-economic and cultural aspects, all of which are interrelated. However, the researcher believes strongly that some of the programmes of these countries can be implemented in Qatar after some modification and alterations in order to be more suitable to Qatari society without conflicting with the country's political, socio-economic and cultural aspects, for example:

1. raising trainers' salaries;
2. building separate institutions for girls;
3. concentrating more in specialisations which are actually needed;
4. treating the graduates of these programmes as equal to academic school graduates;
5. recognising the acceptability of diplomas for further and higher education.

It must also be clearly understood in this context that the purpose of this training should not be limited to imparting knowledge and skills only, but that it should also seek to change the attitudes, outlook and aspirations of the trainees and their parents.

6.1 The major findings based on the data collected and analysed from the students' questionnaires:

6.1.1 Motivation and Selection of VTE

One of the questionnaire's findings showed that students - both males and females - discussed with their father the matter of joining VTE and that most students' fathers did not resent their joining VTE. The results of the comparison between male and female students indicated that more male students discussed VTE with their fathers than female students. The reasons behind this might be that most of their fathers have low qualifications, as shown in the questionnaires, and cannot distinguish between vocational schools and general academic school. Students' questionnaire responses indicated that nearly half of the students did not receive careers guidance in their previous school, especially female students. The majority of VTE students showed positive attitudes towards vocational occupations. This finding was unexpected, because of the idea which exists in the mind of Qatari society that young Qataris dislike VTE schools. There are several factors which might have influenced this:

a. A number of students come from economically poor families; they try to achieve benefits from salary and advantages which are provided for students who join VTE programmes.
b. Others join VTE to achieve knowledge and experience in order to replace the foreign labour force. Furthermore, their work position is guaranteed after graduation.
c. The Government has largely satisfied its need for office occupations, but there remains a demand for technical and skilled workers.

Female students were in favour of vocational occupations. The reasons behind this might be that their choice of profession is very limited because female students currently have three alternative fields in which to participate: 1. education; 2. nursing; 3. banks which serve only women.

The results of the questionnaire showed that the current speciality of a large percentage of students was attributed to personal interest. Females demonstrated this more than males. This is supported by data from one of the informal interviews with an industrial secondary school headmaster who said that the students in his school had a free choice to select their own specialisation without any influence from the school authority but that this situation caused some problems for the authority, viz:

1. Most students prefer mechanical and electrical specialisations.
2. A number of students join some specialisations simply because they have friends there.
3. Some specialisations, such as decorating and wood work, have a limited number of students whereas other specialisations are crowded. The headteacher suggested a number of solutions to these problems:
   (i) Build new institutions with new and large workshops for specialising in mechanical and electrical subjects.
   (ii) Train a number of the institution staff to work as career counsellors to guide students to particular specialisations.

On the other hand the results of the study showed that all respondents agreed that their current speciality was attributed to the government's demand for certain specialisations. The researcher assumes that governmment demand might be one reason behind students preferring certain specialisations.

One of the students' questionnaire findings was that the family income of students from medium and high income families exerted no strong influence upon their joining VTE, while the lowest income students agreed that they joined VTE because of the need for money. Most students from different family income backgrounds opposed the view that they joined VTE schools because the general academic curriculum in schools was difficult. One of the most important findings was that VTE students, strongly agreed that they joined VTE because of their desire to reduce the dependence on foreign workers. This finding indicates that VTE students are aware of the importance of

industrial education. This growing awareness of the need for change might be attributed to the decrease of income from lowered oil prices. Also, during the Kuwait Gulf War, all skilled, semi-skilled and technicians left the country as soon as the war started, which left a feeling in the society that foreign workers will not exist forever and that the time therefore will come when they have to depend on their own labour force.

One of the students' questionnaire findings showed that students agreed that they joined VTE to secure a job after graduation; the greatest agreement came from the lower income group in comparison to the other groups. It is in the interests of the public sector to contribute to the process of development and preparation of indigenous students. It can be argued that there are two main objectives to be achieved in this context:

1. Continuous training and development of the manpower at present on the productivity side, with a view to enhancing their capabilities and maintaining a high level of performance.
2. Training and imparting skills to persons capable of work so that more indigenous manpower will be available for productive work. This is applicable to pupils who have completed studies up to higher secondary school.

Research findings in this study showed that the majority of students strongly agreed that their joining VTE was because it enabled them to gain practical experience for future employment. To achieve this objective the planners and policy-makers should place more emphasis on on-the-job training, especially since one of the study's findings showed that the period of on-the-job training in the workplace was very short, with the result that students had difficulty in coping with work in the field in the future. Career-Planners should design training programmes in the workplace with adequate periods of time to help students to become more familiar with future careers. They should also stress co-ordination and collaboration between school and the workplace. In this regard, it could be helpful to focus on West Germany's experience in this area as

discussed in Chapter Three, where there are three central sub-systems for vocational training in general (Braun, 1987, p. 136).

1. On-the-job training (OJT);
2. Part time vocational school;
3. Full-time vocational school.

On-the-job training (OJT) is known in most of the world and this type of training has been viewed by Qatari planners QGPC (1992) and the Ministry of Education (1993) as beneficial for Qatari needs because:

1. it will develop students' skills and knowledge;
2. it gives students the opportunity to practise what has been learnt in the Training Centre (T.C.);
3. it develops students' communication skills for the real world of work situation;
4. they gain experience gradually before trainees are given a job;
5. it serves to introduce them to the work place and they should complete specific tasks and assignments which are prepared by the VTE institutions under the supervision of the careers counsellor, and their skills improvement and capability will be reflected through on-the-job training (OJT) programmes.

All sectors who will benefit from trainees should participate and contribute to OJT. OJT programmes also serve to provide leadership skills, expert advice, and upgraded training methods. This hopefully will match people with jobs according to their abilities and personal financial needs. The VTE institutions should also prepare all students well for work and make sound arrangements for transfer from full-time education to the workplace.

6.1.2 Preparation of VTE

Research findings in this study showed that almost half of the students disagreed with the proposition that their current speciality was attributed to the criteria which assessed their abilities. This result is one of the weaknesses of VTE programmes in

Qatar. Planners and policy makers should stress the need for effective criteria which will assess the students' abilities. This problem has been addressed successfully in West Germany. Brenem (1983) suggested that schools should provide the students with a great deal of information about vocational education in order to give them general and personal guidance through criteria which will help them to choose their specialisation or their future career. This guidance covers information about:

1. Training periods or duration of training.
2. Training allowances.
3. How the allowances will be paid.
4. The choice of which specialisation they will join.
5. The level of training to be arranged to fit in with the cycle of training.
6. Safety matters.
7. Time off.

This could be accomplished in Qatar through visiting factories in different locations in order to be familiar with working conditions in different departments. This should be in accordance with a plan for when pupils visit firms which would be prepared by the Career Counsellor or training supervisor. That plan will help students to:

a. Practise some specialist tasks to show their ability and what they desire to choose as their future career.
b. Provide young people with more familiarisation with working conditions.

As shown in the questionnaire findings, the majority of VTE students are very keen to study in classrooms or workshops and laboratories. When the researcher visited vocational and technical institutions he observed a large number of students in each classroom, and also in laboratories and workshops. Most of these buildings were not sufficiently equipped with overhead projectors, computers and simulation machines. There is a need to support the institution by providing up to date equipment.

Students from all institutes agreed that they received vocational guidelines from the vocational counsellor at their institute now. More agreement came from Inst (1)

(Industrial Secondary School and Regional Training Centre). This finding was surprising for the researcher, because, during his visits to all VTE institutions, he asked all headmasters if their institution had Career Counsellors. All of them denied this and said that teachers and trainers usually undertook the duty of careers guidance. Teachers and trainers of vocational and technical education institutions serve as advisers for students, assisting them in their choice of specialisation and future career. The schools in general, and teachers, trainers and vocational counsellors in particular, need to see it as part of their remit to help the students make responsible vocational choices.

A large percentage of VTE students agreed with the proposition that they intended to work in the future in their current specialisation. It seems that Qatari students realise the importance of industrial study in the development of the country's economy and they intend to seek work in their career specialisation. Responses also indicate that VTE students changed their negative attitude about the vocational occupation, which might also be attributed to their desire for that economic independence which requires a qualified Qatari workforce.

This study also showed that two thirds of students agreed that the teacher or trainer clarified the objectives of the courses to all students. This result was also supported by interviews with students who said that each teacher or trainer explained the aims of the subjects or the course before they started teaching.

On the other hand, one third of the students did not agree that the practical training in the institutions was of the highest standard, especially males. In addressing the problem one can consider the United States' experience of practical training. There are a number of programmes such as 'co-operation education' programmes and apprenticeships which have been carried out. The objective of these programmes, is that the students check their own interest aginst the use of their recently acquired knowledge and skills (Al-Habbeb, 1988, p. 174).

The results of the questionnaire showed that a large percentage of students strongly believed that VTE played a key role in resolving the lack of technically skilled labour in Qatar. This finding shows that Qatari students think positively about areas of vocational and technical education and vocational occupations. The reason for this might be increased awareness of industrial development and also an attempt to reduce dependence on foreign workers.

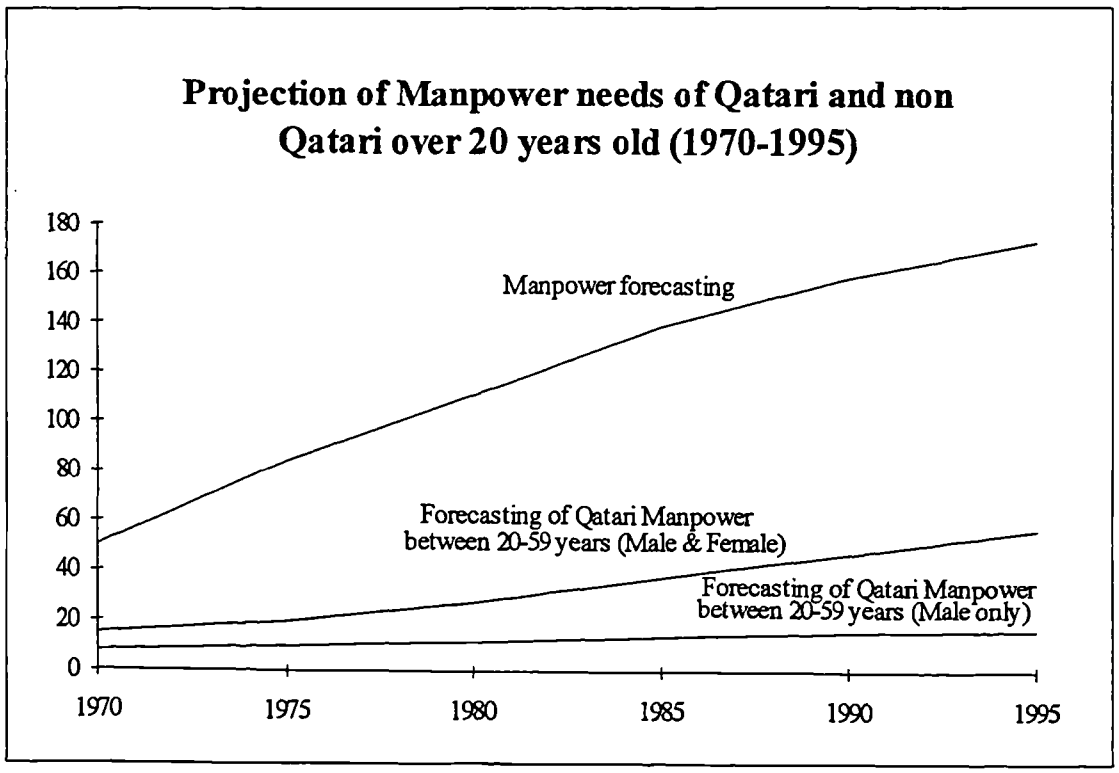
6.1.3 VTE and Academic Education

Even though students were aware of the importance of VTE, a large percentage of them still believed that VTE enjoyed less prestige than academic schools. This finding reaffirms a similar study by Alakis (1972) in Saudi Arabia. He found that vocational and technical education seemed less prestigious and desirable to Saudi youth than academic schools because this type of education was looked down on by a majority of parents, regardless of their own educational background. Unfortunately, most of Qatari society has always considered vocational and technical education as less desirable than general academic education. The finding also reaffirms a similar study by Al-Ali (1993) in Kuwait. He found that the reason for the low number of students who enrolled in vocational and technical education institutions was that students preferred general academic education to vocational school because of the low status of VTE.

6.1.4 VTE and the Shortage of Students

The questionnaire also showed that the number of students who enrolled in vocational and technical education was not adequate to supply the economic and industrial sectors with skilled manpower. The majority of Qatari students favour desk jobs because of the shorter working hours, smaller effort required, greater social prestige and greater ease of promotion. Students enrol in general academic schools in order to gain access to university places which lead finally to office jobs. This situation indicates that the Qatari Government will continue to face a shortage of national skilled manpower in vocational and manual occupations (see Fig 6.1).

Figure (6.1) The Gap between Supply and Demand of Manpower in the State of Qatar until 1995. ('000s)



Source: Al-Kubaisi, A. et al. (1989) Technical education project, vol. no1, University of Qatar, p31.

The supply of technicians and sub-professionals will also fail to match government demand in 1995 because skilled graduates for these posts usually come from vocational and technical education schools. Until the Government finds a solution, they will have to continue to rely on foreign labour.

6.1.5 Student Dropout

One of the great failings of Qatari VTE programmes is that the high dropout rate from VTE institution.

Table (6.1): Number of Students and the Dropout from VTE Institutions in 1990- 1991.

Institutions	Number of Students	Number of Dropout
Regional (TC)	457	47
Industrial School	305	48
Commercial School	165	13
QGPC (TC)	103	15
Nursing Institute	55	10
Health Institute	22	7
Total	1107	140

Source: 1. Ministry of Education, annual report, 1991, P.27
2. Ministry of Health, statistical yearly report, 1991, P.13
3. Qarar General Petroleum Co-orporation, yearly report, 1991,P. 52

Table 6.1 shows the number of students and the number of dropouts from 1990-1991 including those from secondary schools and trade and industrial schools.

Table 6.2: Students, Graduates and Dropout of VTE Institutions in 1991-1992

Institution	Number of students	Number of graduates	Number of dropouts
Regional (T.C.)	449	436	13
Industrial school	393	105	33
Commercial school	108	53	7
Q.G.P.C. (T.C.)	120	70	13
Nursing Institutions	72	32	9
Health Inspection Institute	25	17	5
Technology College	-	-	-
Total	1167	713	81

Sources:1. Ministry of Education, anual report for 1992, P.42
2. Ministry of Health, yearly report for 1992, P. 17
3. Qatar general Petrulum Co-orporation(QGPC), yearly report for 1992, P. 32

Table 6.2 shows the number of students graduating from vocational and technical education institutions for 1991-1992, the number of students who enrolled, and the number of dropouts from VTE institutions.

The high dropout rate is supported by Hansen (1982) in his study of Egypt. He found that most young Egyptians did not enrol in vocational and technical education because of low wages and that graduates were classified as having a second class education and thereby received little respect from society. It was pointed out that one of the major problems of vocational and technical education is that it suffers from a large number of dropouts. The findings of the staff questionnaire by different specialisation, and also from different institutions (e.g. Inst (1) and Inst (2)), show that there is more than one reason behind the dropout rate in vocational and technical institutions in Qatar:

1. The low status given to this type of education.
2. The slow rate of promotion after graduation.
3. Easy access to public sector jobs due to the small indigenous population.
4. The low salary after graduation.
5. Administrators believed that VTE institutions suffered from a large number of dropouts because of the failure of the facilities and standards of teaching to encourage students to continue their studies. Technical trainers and teachers agreed with the first four reasons, but did not agree with this.

Since dropout problems could be closely related to concerns that students have in other areas, e.g. easy access for students who drop out to jobs in the government or joining general academic school (see Table 6.1), careers guidance services should be improved and made available to all students, regardless of whether or not they are in vocational school. High quality VTE programmes could be a partial solution to the nation's dropout problem.

> "our nation's dropout problem has become a major issue. The dropout rate can be reduced by improving education programmes and [that] vocational education has a role to play in such efforts" (Weber, 1988, p. 36).

Weber and Sechler (1986) argued that:

> "VTE can serve young people whose problems make them unable to function effectively in a public school environment. Some have been through drug or alcohol rehabilitation, some come from homes where the weight of family problems makes school seem unimportant, some have been through the courts and realise they need a way to stay on the right side of the law" (p. 44).

VTE cannot improve the attitude toward manual occupations or vocational jobs held by unwilling students who are forced to join VTE, as is sometimes the case in Qatar, and consequently these students will drop out and find their way back into the university track.

6.1.6 VTE Qualifications and Access to Higher Education

This study shows that the majority of the students indicated that the awards and diplomas from vocational and technical education institutions were not recognised as qualifications and that this hinders them from continuing into higher education institutions. This is because the higher education authority believe that the levels of curricula that a VTE student studied were not of a high enough standard to allow VTE graduates to cover the entry requirement for higher education. Understandably, therefore, many students hesitate to join vocational and technical education schools because most families prefer their children to have higher education. A majority of Qatari families enjoy sufficiently good economic circumstances to assist their children financially so that they may pursue higher education by studying abroad. The government also encourages students to enrol in a general education and university. The middle class families also prefer their children to obtain higher education for a better life and good occupation in the future. Therefore planners and policy makers should encourage the Government to open a new system for access to higher education specifically for those studying in vocational and technical education. Qatari planners could learn here from the example of the United States of America. As Abdul Whab (1985) mentioned, immediately after the Second World War there was a dearth of skilled technical staff. The issue was dealt with by establishing Community Colleges which were oriented to meet the country's demand for technically skilled people. The students followed a four year programme, after which their qualifying certificates entitled them to apply to universities.

Such a system obviously has to be supported by the Ministry of Education and University of Qatar. University of Qatar accepts only three students from each VTE

institution with high grades because the authority believes that the university concentrates on quality and not quantity. Were vocational qualifications to become acceptable for higher education in Qatar then more students who wished to advance their education would be encouraged to enrol into vocational and technical education institutions.

6.1.7 Enhancing the Status of VTE

One of the questionnaire's findings showed that a majority of students agreed that there was a lack of respect for the VTE institutions amongst Qatari society. This negative attitude of Qatari society towards vocational and technical education might be a result of a number of factors.

1. It could be because vocational qualifications and manual work have long been carried out by foreign nationals and lower class people.
2. They believe that places at vocational and technical education schools are offered only to students with little academic education, and it is therefore categorised as second class education. This is supported by informal interviews with the parents of some students.
3. They believe that this type of education is suitable only for students with low intelligence.

Al-Ghfaily (1980) suggests that in order to promote the image of vocational education amongst Saudi Arabian youth and their parents, extensive public relations programmes should be initiated to help general academic students and their parents to understand the improvements which vocational education could make for the prosperity of the future of Saudi youths. These programmes, as Al-Ghfaily stated, could operate at two levels:

1. Within the school, developing student awareness programmes about the importance of VTE for society in general and the industry in particular.

2. Outside schools, by organizing displays, visits and production of a magazine by VTE students for the public.

One way to change the negative thinking of Qatari society about VTE is to produce more information about vocational and technical education. This is one of the responsibilities of the news and current affairs media. The mass media can play an essential role in strengthening society's awareness of vocational and technical education. This study also showed that at present the media has no strong influence in encouraging youth to join VTE. The student questionnaire indicated that more than half of the respondents gained knowledge of vocational and technical education from friends. This finding is supported by Kisnawi (1981) in Saudi Arabia. He reported that students' knowledge of vocational and technical education was gained through friends, and that they received nothing about technical and vocational education from the radio, television or in the newspapers. The media, therefore, should participate more effectively and support and strengthen the awareness of vocational occupations and manual work.

6.1.8 Women and VTE

The results of the questionnaire showed that a large percentage of students, especially males, had a negative attitude toward the role of women in the work force, while girls were willing to participate in the labour force, and the majority of participants believed that female participation might help to reduce the dependence on foreign workers. However, male students believed that traditions prohibited women from performing vocational jobs, a view which female students opposed. Most of the respondents also agreed with the view that allocation of places for women might help women's participation in vocational occupations. Both male and female students also believed that women were not to be allowed to work in certain areas because of religion.

This should be seriously considered in human resource planning and policy making and should be discussed and identified in the framework of the society's faith, the cultural values which define the Qatari people's views and the kind of work they prefer. The

role of planners could be to investigate and identify essential ways of encouraging Qatari citizens to enable women to participate in the development of their country, to enhance the social acceptability of such participation and to identify what possible areas and occupations could be made available for females. Al-Qaradawy, one of the most respected Moslem scholars in all the Moslem countries, argued that when we do not allow women to participate, we suspend half of the society (Al-Sharq Newspaper, 1993, p. 5). Also, another well known Moslem scholar, Al-Gazaly (1993) argued that there are many women who are brighter and more knowledgeable than men and if we do not gain benefit from them we will lose a lot. He also said that women should participate in different areas and specialisation if the society needs them, as long as they wear Islamic dress and hold to Islamic values.

6.1.9 The Location of VTE Institutions

The questionnaire findings showed that a high percentage of students from all institutes disagreed with the view that the institution building in which they studied served the purpose very well. This disagreement was higher among Inst (1) (Industrial secondary school and regional training centre). A problem facing vocational and technical education buildings is in their location. Most are currently located in urban areas, where it is impossible to build extensions and hence difficult to improve their condition. For example, the Nursing Institution building is not actually an institution but rented buildings which were not meant to be teaching institutions. The institute has no library, the students have no reading space. The institute has moved twice.

6.2 The main findings based on the data collected and analysed from the staff questionnaires.

6.2.1 Incentives for VTE

The Government emphasised and encouraged students to join VTE institutions in different specialisations, but unfortunately most youth try to avoid this type of education, as revealed in the VTE staff questionnaire findings, because of a number of factors:

1. The low status of VTE due to its manual nature.
2. Embarrassment at having to wear an overall.
3. The lack of incentives or attractive privileges.

The reasons for all of the above difficulties might be psychological because, as mentioned earlier, vocational occupations have long been carried out by foreign nationals and lower class people. Also, this type of occupation will not lead to office occupations; it could be that the old idea persists that vocational and technical education is suitable only for students with low academic education and is therefore categorised as second class education. The planners and policy makers should strive to change this negative attitude toward vocational and technical education and manual occupations. It might be beneficial if the planners and policy makers apply a number of disincentives to office jobs to direct students to vocational and manual occupations and to increase the incentives for vocational and manual occupations (e.g. shorter hours, increase the allowances for vocational and manual occupation, faster promotion for vocational and manual occupations).

6.2.2 VTE, the Labour Market and General Education

The research findings showed that vocational and technical education staff, both male and female, felt strongly that adopting the most advanced methods like interaction between education and world of work would develop VTE. In Japan, the percentage of pupils studying in full-time education between the ages of 15 and 18 years is as high as 93%, and the main objective for the Japanese vocational school is to prepare young

people both morally and technically for the world of work and to improve the skills and productivity of their work force, which has given a high priority to meeting the challenges of rapid technological change. To adapt to changing patterns of employment opportunities and to enable youth to gain stable employment the Government of Japan provided pre-employment vocational and technical education and training, strengthening basic and academic or general secondary education with a priority for building the basic skills needed for retraining to meet changing occupational requirements (Okano, 1993, p. 148).

According to Pasachoropoulos (1986), the relationship between education and employment is very difficult to achieve in most countries because of its complexity. Nevertheless if a country invests time and effort into linking education and employment the relationship between the two can be developed, as in the case of Japan reported above. This relationship is one of the most important perennial topics discussed by experts in the relationship between economy and education and includes such recommendation as:

> "1. Bring the private cost of education in line with the social cost, especially at higher level while providing student loans for everyone and selective scholarship for the needy.
>
> 2. Promote closer links between education and industry, not by new or revised from work locus, a favourite European expedient, but by offering a market test" (ibid, p.411).

Complex social, political and economic conditions continue to drive the link for more efficient and cost-effective ways of providing educational and training services. For example:

> "during the 1980s many developing countries faced economic slowdowns and severely restricted budgets, while simultaneously confronting increased demands for public services. These conditions will be occupied with finding more effective ways to provide educational and training services" (Herschbach, 1991, p. 3).

Critics of VTE base their argument mainly on the high cost of vocational programmes (as compared with general education). Herschbach indicates that critics comment:

> "1.On the poor placement rates of many such programmes.
>
> 2.On the poor quality of training provided.

3.On the apparently low level of benefits in the form of wages for programme completers" (ibid, p.3).

In Germany, the government has designed a programme termed the Dual System of Vocational Training (discussed in chapter three). About 57 per cent of the total manpower in West Germany were students passing out from vocational and technical education (Training Centres) (Pritchard, 1992, p. 138). The Dual System also functions as a bridge between the educational and employment systems.

Braun suggested that there are two main factors needing to be present for the Dual System to operate. These are:

"1.That firms train in the vocational areas for which they require junior employees;

2.That there is a combination of vocational qualifications and productive work within a firm's trainee programme" (1987, p. 124).

One of the most important parts of the system is that a trainee who obtains the necessary qualifications can enter the polytechnic at the age of 19 and thereby gain a degree which provides the opportunity of access to higher education (Cantor, 1991, p. 178). In addition, the advantage of this system, according to Cantor, is that

"it provides youngsters with a smooth transition from school to work and appears to deliver a form of vocational training which is of a high quality of labour force, which produces the high quality products for which Germany is famous" (Cantor, 1991, p. 178).

The costs of the training programmes are mostly borne by industries which engage employees on low salaries. In return for training, the trainee agrees to accept a lower salary in order to ensure job security (Cantor, 1991, p. 178). The disadvantages of the Dual System were outlined in chapter three.

If planners and policy makers in Qatar wish to implement a form of Dual System, they can learn from the German experience and:

1. provide up-to-date technology;
2. ensure that the programme serves both men and women;
3. ensure that the programme is full-time and serves students who are between 16-19 years old;

4. ensure that parents and pupils contribute to their community to improve the status of the programme.

Another important point which was also explained by Pritchard (1992) is the integration of general academic education and vocational education in West Germany. He argued that "such integration is neither primarily a pedagogical nor a subject-specific problem but essentially a socio-political change". In the United Kingdom the Youth Training Scheme offers a two year programme including at least 20 weeks off-the-job training, discussed in chapter three. This scheme could be used for young people, those who drop out of school and the unemployed and employed young people (Franklin, 1987, p. 31).

If policy makers and planners in Qatar would like to use or implement the YTS programme, it is very important to modify the status of YTS to be more desirable through:

1. raising the salary of the trainee;
2. recognising the diploma certificate by further education;
3. provide YTS graduates with sufficient jobs equal to other VTE institutions graduates and academic schools.

Planners and policy makers should develop appropriate policy strategies for integration between general academic education and vocational technical education (Middleton, 1991).

In Qatar the VTE curriculum and structure is separate from general academic education. Until the policy makers and planners put a greater effort into combining both programmes, the continued separation between general education and technical education will fuel the problem of negative attitudes towards vocational and technical education. Integration is necessary in order to open the door to further education for graduates in higher education teaching institutions in the fields which are relevant to

their specialisation. This cannot be achieved through the present structure and curriculum of the institutions. Policy makers and planners should narrow the gap and lack of co-ordination between them. Vocational education should be considered as a part of the total education of an individual. It helps to channel the general education of a student towards his/her professional career.

As it stands, general education precedes vocational education, thereby acting as a foundation of general knowledge and tools of learning which are required for vocational training. Pasachoropoulos (1986) outlined some of the issues relating to vocational education generally.

1. Vocational and technical education is very costly compared to general education, being specialised towards a particular skill it raises the unit cost. The longer the training lasts the greater are the costs.
2. Vocational and technical graduates may be more productive than students going through only a general education curriculum.
3. A majority of vocational and technical education graduates may not find employment in the relevant economic sector or profession for which they were trained.
4. Vocational and technical education does not necessarily create employment.
5. Vocational and technical education does not benefit students who are forced to enrol for the course.

6.2.3 Organizing and Administering VTE

One of the questionnaire results showed that there is a need for a single authority to administer all vocational and technical education institution activity, so as to avoid duplication and wasted effort and to ensure integration. For example, there are a number of institutions which have similar programmes, such as QGPC (TC), Industrial Secondary School and Regional Training Centres, and there is a lack of co-ordination between them. One example of this, exists in Brazil: the National Service for Industries

and Apprenticeships (SENAI). As Ammann (1984) explained SENAI is responsible for developing the individual potential of each student and seeks to improve teaching methods by updating machines, tools, preparing its instructors well, planning the technical and vocational programme in the light of labour market demand. The major objective of SENAI is

> "to find new and better ways to provide a sound general education on which the specific education related to a trade must be built and to develop the individual potential of its students and to help those enrolled in its vocational training centres to fill a useful role in society" (Kempner, K. and Castro, C., 1988, p. 482).

Saudi Arabia also has a similar authority responsible for all VTE activity, the General Organisation for Technical Education and Vocational Training (GOTEVT). The main duty of this authority as Al-Habeeb (1988) argued is to attract more Saudi students to join vocational schools and to provide the Saudi economy with an efficient, skilled labour force for continuing its industrial development.

The ultimate purpose of vocational and technical education is to train indigenous people in order to increase the number of trained people and thus increase their own and the country's productivity. Although an authority in Qatar would have many advantages through implementation of its functions, such an authority would also face great challenges in accomplishing these. This authority is in a country that has considerable difficulty with administration and maintenance. For example, there is a lack of co-ordination between Ministries and organisations who dominate VTE institutions, such as the Ministry of Health, Ministry of Education, QGPC (Training Centre), and the University of Qatar. Also, the centralisation in terms of decision-making is influenced and controlled by the Council members appointed by the Government's top authority, and they are the source of all authority. According to UNESCO:

> "education in Qatar, as in most of the Arab states, especially in the Gulf areas, is almost completely centralised. Policies, curriculum, text books, plans for expansion, examinations, all emanate from the central office and teachers exercise no influence on the shaping of education and policy. Their job is to execute the order of the central office and to see that those subordinate to them apply them literally" (UNESCO, 1978, p. 13).

Al-Ibrahim commented:

> "This centralised system, the power of policy meeting, curriculum development, text book production, promotion and termination of staff in the Council of Ministers from general policy to every detail of daily routine" (Al-Ibrahim,1981, p. 15).

This creates bureaucracy and not enough freedom in decision making. However, with careful planning and attention to identified issues, this authority could be introduced systematically. Success in implementation has the potential to improve the training system, content and effectiveness in developing the country for the benefit of training, business, industry and the educational system as a whole.

6.2.4 VTE and the Shortage of Students

One of the questionnaire's findings showed that there is a shortage of Qatari teachers and trainers (see Table 6.3). The findings of the questionnaire showed that there is more than one reason for the shortage in vocational schools:

1. The lack of interest in this sector of education by Qatari teachers and trainers.
2. The lack of financial incentives in this sector of education.
3. The shortage of Qatari teachers and trainers was due to the low status of VTE.
4. The slow promotion in this sector of education.
5. Most families do not encourage their children to enrol to this kind of education because they believed it is only suitable for poor and disadvantaged.
6. Students could not continue further education after graduation from VTE institutions.
7. Lack of information about VTE institutions.
8. Lack of career guidance in school to direct students to this kind of education.
9. Qatari students prefer desk jobs or office jobs to manual jobs.

Table 6.3 : Vocational and Technical Education Institute Staff from 1992-1993

Institute	Administrators	Teachers	Trainers
QGPC (TC)	4	5	50
Nursing Institute	3	7	15
Faculty of Technology	5	7	10
Commercial School	7	9	13
Industrial School	5	13	11
Regional Training Centre	4	6	17
Total	28	47	110

Source: 1. Ministry of Education, annual report, 1993
2. Ministry of Health, statistical yearly report, 1993
3. Qatar General Petrolum Co-orporation yearly report, 1993
4. University of Qatar, statistical yearly report, 1993

This finding echoes Hanson (1982) in his study in Egypt. He concluded that Egyptian teachers and trainers tend not to work in this kind of education because promotion and an individual career development programme in government can be difficult to gain. A further factor is that wages are very low. Al Misnad said that:

> "Technical and vocational education is less attractive because manual and technical workers have always been regarded as inferior to white-collar jobs, in the Gulf States. The reason for this attitude in Gulf Society could be its adherence to Bedouin culture and tradition which is opposed to any kind of settled life and hence perceives technical and manual workers as peasants who settle for manual labour" (1984, p.264).

Planners and policy makers should strengthen the awareness of teachers and trainers in particular, and the society in general, about the role of vocational and technical education as well as industrial education jobs, and this responsibility lies with the media, as this study showed; the media could effect all parties.

One concern expressed in the questionnaire was that graduates of VTE do not work in their field. Reasons for this, as appeared in the questionnaire findings, are:

1. because of its low status;
2. because of the availability of other jobs in the public sector;
3. because students believed that such jobs should be done by foreigners.

This is one of the major problems facing the Government of Qatar. If this situation continues the Government will face a shortage of national skilled manpower in vocational and manual occupations. There is a need for policy makers and planners to modify training policies through improving the conditions for VTE graduate and changing graduates' aspirations about blue-collar employment. Also government might formulate some policies to restrict students joining general academic education which will lead to an office job.

6.2.5 Women and VTE

A majority of vocational and technical staff believed that women must stay at home and look after the children; many female staff agreed with this. Most of the vocational and technical education staff considered that mixing women and men in the workplace was unacceptable. This might be because most Qatari people are Moslem and Islam prohibits Moslem females to mix with males except for special occasions. For example:

1. If a woman has no husband and she has children to look after, and could not find a job with women, she is able to work in a place with men.
2. If a woman is sick and there is no female doctor, she is able to see a male doctor.

Most of the responses disagreed with the view that traditions prohibit women from performing such jobs, so long as there is a special place located for them where they can work without mixing with men. Moreover, half of the VTE staff argued that allocating places for women only may help women's participation, a view held more strongly among males than females. The majority of participants believed that female participation may help to reduce the dependence on foreign workers. Azzam (1983) arged that:

> "Women in the Gulf countries are an unutilised human resource which is capable of contributing towards the process of growth and development and if well tapped could significantly increase the indigenous supply of labour. Policy measures should be designed at all levels to enhance female labour force participation in the modern sectors of the economy. Indigenous female labour forces would then substitute for the ever increasing number of expatriate labour, save on the social overhead cost of immigration and make the population more homogeneous" (p. 43).

As mentioned above, this area is very sensitive and the role of planners and policy makers should be to handle this issue cautiously because, as Al-Kaadi (1987) said,

> "The Qatari woman is still in subordination to the all-powerful man who has the right to decide and choose for her whether in private or in government committees of executive decision-making status. Her most important function is still viewed as that of the obedient daughter, wife and mother. This social attitude of the male-dominated decision-making sources has created problems both for women as part of the labour force and for the country as a socio-economic unit" (p.155).

Also, as Al-Misnad stated in her study about education in the Gulf countries:

> "lack of employment opportunities in technical education for girls in the Gulf countries makes them highly cautious about enrolling for this type of education" (1984, p. 266).

There are strong cultural pressures which still make it difficult for women to pursue careers on an equal basis with men, especially in management. This situation is present not only in Qatar but in other countries also. For example, in America, as Goethsch and Gulled (1981) indicate, the gap between women's legal rights and her actual realisation of those rights is more evident in the labour force. Women in the labour force still find themselves too heavily concentrated in occupations that fall within the lower wage groups. Also Mckinnon and Ahola-Sidaway (1994) argued that:

> "the occupation segregation of American female workers and the projected growth in low paying jobs do not present encouraging employment prospects for young women who will be entering the labour market over the next decade. Certinly economic and social attitude that contribute to continued segregation of women in low paying jobs need to be challenged" (Mckinnon and Ahola-Sidaway, 1994, p. 42).

Also, Cantor (1989) explained the situation of women in Japan. He said that women in Japan do not have opportunities equal with men because of cultural influences which persuade them to accept careers with lower status and salary and not to seek out senior or managerial positions, e.g. women in Japan are treated as temporary employees because most of them marry and leave the company to look after their children. Pritchard (1992), in explaining the situation of women in West Germany

under the Dual System, said that women remain less recruited and those who had the chance to work were paid less than men and were also limited in promotion (Pritchard, 1992, p. 138). In the UK, Chapman (1991) argues that:

> "women professionally are excluded from the mainstream of professional life. It is hardly surprising that they may feel isolated from the men colleagues. Even more seriously, women are often evaluated firstly by their sexual attractiveness to men rather than by their performance as professional colleagues" (Chapman, 1991, p.157).

It is important to state here that every person, regardless of sex, has a right to develop his/her individual potential in order to achieve his or her own creative, emotional and intellectual aspirations, yet discrimination based on sex still exists in society and in education. The need for fair vocational educational policies and practices with regard to gender is necessary, for example by introducing an Equal Opportunities law to encourage some sectors in the government and also in the private sector to recruit more women university graduates for posts of equal status to those available for men.

Salmi (1990) argues for the role of education as an instrument of social change. School and education can play a crucial role in initiating talk about sex, vocational education and employment, increasing awareness of the issues and problems in providing the means to develop knowledge and skills, facilitating an understanding of intent by the state in promoting educational equality for all students.

Benavot (1992), when discussing education and gender equality argued that:

> Many economic and sociological theories predict that education increases women's participation in the labour force. This prediction is premised on the notion that education favourably effects women's willingness and ability to enter the wage labour market. Specifically, it is asserted that the increase in schooling of females (1) raises their potential earning power and thus provides them with a strong inducement to seek employment, (2) raises their occupational aspirations, (3) changes their attitudes towards women's traditional roles in the household and in the workplace, and (4) provides them with the necessary credentials for employment in many jobs" (p. 29).

In Arab countries such as Egypt, Saudi Arabia and Kuwait, women also face the same situation as Qatari women. As regards women in Egypt, Williamson (1987) explained that

> "It remains true though that the lives of women are still circumscribed by traditional constraints in which the men of the family exert a powerful control over them ... women still have poorer educational chances in life, especially for women in rural areas, where life is an arduous round of hard agricultural and domestic labour ... the status of Egyptian women would relate the discrimination they experience to class differentiation, patriarchy and to strategies of dependent modernisation which limit their economic and political participation" (pp. 135-136).

Kisnawi (1982) suggested that women in Saudi Arabia live in extreme privacy and are not seen by men other than their husbands and very close relatives such as father, brother and uncle. Therefore Saudi women's participation in economic activity and the national labour force is very limited. Al-Essa (1981) argued that most women in Kuwait have higher education, better qualifications and experience when compared to Kuwaiti men, but they are still lagging behind in the higher managerial level position. Also, she said that:

> "women's participation in the labour force is not only low but their occupational choice is limited by custom and tradition to the fields of education, health and social welfare" (p. 100).

The issue of equal opportunities, then is as vast as it is important.

6.2.6 Staff Development for VTE

Research findings in the study showed that the majority of VTE staff from Nat (1) (Qatari, Palestinian, Egyptian, Jordanian) and Nat (2) (Gulf Co-operation Council, Sudanese, Syrian, Tunisian, Lebanese) strongly agreed with the view of sending abroad for training courses those who have an excellent work record and in response to the needs of the specialisation, regardless of the specialisation. If planners and policy makers wish to advance the knowledge base of the VTE staff it is very important to send a number of VTE staff to attend in-house or overseas courses because these kinds of courses will provide VTE staff with recent and up to date information about the specialisation and area of work. These courses will also give them more opportunity for exchanging information about some specialisation in different countries.

The majority of VTE staff from different specialisations believed strongly that applicants to VTE schools should have practical experience in the field. The questionnaire results showed that a large percentage of trainers and administrators had

no work experience in industrial or economic backgrounds. The planners should give priority to employing those from economic backgrounds because they can help when setting up the VTE curriculum, as this will place stress on economic needs and take economic change into account, and will plan accordingly to upgrade and meet the changes in the labour market.

Three other systems which are used in the UK could be used and implemented in Qatar for developing skilled human resources which is required as a part of the demand for skilled manpower: the Technician Education Council, the Training and Enterprise Councils and the Certificate Pre-Vocational Education-all discussed in chapter three.

6.2.7 Buildings and Equipments for VTE

The findings in this study showed that the existing buildings, tool, machines and equipment which are used in vocational and technical education institutions are frequently obsolete and unable to fulfil their role, and that the workshops and laboratories are not equipped with the scientific instruments and are not properly organised. Hence workshops and labs are not placed in a building suitable for carrying out experiments in laboratory work, and emergency and safety measures are not given proper attention; the physical arrangements of the labs are designed so that the instructor (trainer) is the only source of knowledge, the only demonstrator. The institutions' buildings are old and located in urban areas where it is impossible to build extensions and hence difficult to improve their condition. All of the above difficulties might be the reasons for the standard of attainment of the graduates being lower than expected and negatively affecting the quality of the graduates to manage to operate the complex equipment necessary for the hydrocarbon industry.

6.3 Summary

Drawing together the findings from chapter three, the students and the staff questionnaire the above discussion leads to the conclusion that there are several factors or problems which must be considered in order to have an effective VTE programme, particularly in raising the status of VTE. It has revealed:

- the need for careers guidance and responsible vocational choice about careers;
- the country's economic and industrial needs must be served better by VTE;
- the need for equal opportunities to be extended to women within a cultural and religious framework;
- the need for specific training and specialisations, ensuring that the training is attractive and relevant;
- the need for the development of higher as well as elementary skills;
- the problems of access to higher education and recognition of VTE entry qualifications;
- the need for information about careers choices to be disseminated more widely through various forms, including schools and the media, coupled with increased counselling of students from an earlier age;
- the need for centralisation of planning curricula, organisation, resourcing, relationship to higher education, i.e. the overall machinery of VTE to be under the responsibility of a single organising body/authority which draws from a combined field of stakeholders;
- the need to break the dependency on foreign workers (e.g. by introducing quotas or by absolute reductions),
- the need to ensure that jobs exist for workers after VTE and that VTE matches the specialism and preferences of students, (including restricting entry to jobs for which training has not been received).
- the possibility of introducing disincentives to office jobs;
- increasing financial incentives for VTE graduates (including tax incentives);

- the need for increasing continuous-on-the-job training, integrating it with academic and vocational education;
- the need for greater and more rapid career promotion in vocational and technical employment;
- greater links between school and industry;
- industry should have greater regard for VTE qualification,
- the need for VTE centres to be built in new locations and to be integrated with other institutions of higher education so that VTE students have easier access to higher education and that university students should participate in programmes of VTE;
- the need for improved equipment, facilities and staff expertise;
- the need for staffing incentives to be increased;
- the need for staff development to keep up to date.

In order to solve the problem of VTE it must be considered to be further informed by other factors such as sex discrimination, attitudes towards manual occupations, size of population, traditions and the socio-economic system. Hence any attempt to solve the problem of VTE without consideration of such socio-cultural conditions and traditions will find progress difficult.

However, development and training of national human resource are the foundations for implementing development plans. In the next chapter, the author will make a number of proposals which will cover all the above main issues arising from the discussion of the data in relation to the socio-cultural context and traditions of Qatari society.

Chapter Seven

Conclusions, Recommendations and Critique.

7.1 Conclusions

In the state of Qatar the government has given attention to human resource development, which has become a major objective and the top priority amongst factors shown to influence socio-economics (Naima, 1983, p. 2). The revenue derived from crude oil exports is the backbone of Qatar's economy (Nafi, 1983, p. 1). The rapid growth of socio-economic development in Qatar pushed the government to recognise the demand for a highly skilled young work force to work in industry, commercial companies and various different business sectors. The government established a number of vocational and technical education institutes to supply the country with skilled manpower for this rapid expansion, and also to replace the foreign labour force.

Whilst it is true that vocational and technical education has not matched expectations, there is no doubt that awareness of the need to change expectations about VTE has grown, especially after the fall in the price of oil. People realised that their attitudes towards vocational occupations must change because vocational education contributed to the development of the country's industrial economy. The questionnaire results supported this increasing awareness, which indicated that a large percentage of students who come from a very high family income background and others whose fathers have their own businesses are joining vocational and technical education.

The conclusions that follow, based on the results of this study, and which are the basis of the findings regarding training in the state of Qatar, demonstrate the overall and general essential need for human resource development programmes that advance and improve the skills of young Qatari workers to meet the nation's need for technicians. The findings show that there is a lack of general guidance services; these are needed in the vocational and technical education schools in Qatar. There is also misunderstanding in society about vocational and technical education schools, which have lost many students joining VTE programmes. There is also the problem of recognising the Diploma Certificate of these schools for higher education, which dissuades many students from enrolling into vocational schools. The author will recommend solutions

to the most critical problems regarding vocational and technical education programmes which clarify the situation and point towards improvements.

The economic development plan points to the inescapable need for a foreign labour force, especially on the professional and technical level and it appears that Qatar's dependence on skilled foreign labour will continue for a long time if the vocational and technical education system which currently exists is not changed. There are specific problems for the country's manpower development programmes:

1. The much-needed expansion of vocational and technical education in the state of Qatar lags far behind some other Arab countries, e.g. Iraq, Jordan and Tunisia.
2. The semi-skilled and skilled labour force which graduates from vocational and technical educational institutes is still limited in number.
3. There is an urgent need for a single authority to design and co-ordinate the country's VTE programme.
4. The media currently has no strong influence in encouraging young people to join vocational and technical education.
5. No effective policy for successful programmes exists in most areas of vocational and technical education.
6. Women can participate if planners identify essential ways of encouraging society to enable them to do so.

There is an urgency about the need for these changes, because there is a significant time lag involved in changing the supply side situation: it takes several years to see the emergence of an adequate number of graduates from educational institutes at the middle and high school levels and also from the vocational and technical institutions and vocational training centres, besides universities. It is only then that the needs of the manpower market can be met locally in terms of quantity and quality.

Any implementation of change requires not only an understanding of the specific setting, in this case Qatar, but also an awareness of a relevant literature. Section 2. provides a brief description of structural, social and personal attributes which influence change.

7.2 Educational Change

Educational Innovation is not a temporary process. We see the pressures for change coming from the external environment as well as from the schools themselves, but when we attempt to deal with change it is desirable to keep in mind the goals and the values of the society with specific educational changes. We should also understand the dynamics of educational change to cover all parties (e.g. classroom, school, local, regional and national factors) at work in interactive ways that will help in the end of have a shared solution in everyday situations which will assist the change to succeed (Fullan, 1991, p. 5).

a. Structural features which influence successful implementation

Dalin (1993) summarised the features of educational change in six statements:

1. The paradigm shift: The world is changing every day and we are involved in the middle of a major paradigm shift and add-on changes to the existing schools are inadequate. Meaningful educational changes demand new perspectives and fundamental changes in the culture of school (p. 2).

2. The school as the unit of change: The school is the place of change because it is the only site where the demands of society and the prospects and learning needs of students and teachers are fulfilled. Each school is unique. It must learn how to learn (p. 2).

3. Central authorities as partners. The school is part of nation building. It does not work by itself. It requires the challenges and the support of central authorities. Many problems will arise in the future and can only be treated with as a result of close co-operation between the school and central authorities.

4. The real needs: School improvements to be powerful must meet the real needs of students. To obtain this goal is a very difficult process of developing ownership and shared visions of short-term and long-term objectives within each school.

5. Change as learning: Changes that have a significant effect on students' lives involve an in-depth learning process that can only be controlled by teachers and headteachers who themselves are learning in groups that can draw on the ability of all members and in the school as an organisation involving full participation.

"6. The learning organisation: The goal is a learning organisation that is able to reply creatively to changes in the environment; an organisation that has embedded capacities for school-based curriculum changes, for staff development and supervision, for group development as well as management and organisational development and not least that has institutionalised the process of ongoing school assessment." (Dalin, 1993, p. 2)

Parties involved in changes

b. Personal/individual

i. The teacher

Educational change depends on what teachers do and think, and the needs are that teachers know themselves and should be understood by people. Every teacher who will be affected by change must have the opportunity through his experience to interact concerning their own practices. The more they will be able to bring about improvement that they themselves identify as necessary, good teachers mean more confidence and certainty in deciding on instructional issues in operating problems and increasing teachers' motivation served student achievement (Fullan, 1991, p. 138).

Fullan (1991) also pointed out that there are six guidelines for teachers when they are involved in changes:

1. Being self-critical (analytic) is important in order to avoid the problem of false clarity. It is necessary to determine its priority even if the change is desirable

because teachers are usually faced with too many changes as once, so it is necessary for teachers to know where to put their effort. It is best for teachers to give effort to one or two of the most important priorities at one time and deal with the others as well as possible (p. 138).

2. An effort should be given to ascertain if the administration is supporting the change and why, because some form of active commitment by administrators will be helpful for releasing or freeing up important resources for the innovation to succeed. It may be practicable to go it alone if the specific change is highly valued by the teacher but it will be hard unless there is some support from the administrators (p. 138).

3. It is very important for the teacher to help assess other teachers, which will show interest in the change because if peer interest exists it can represent a satisfactory aspect of the change process (p. 138).

4. Teachers have responsibility to contribute and exchange better ideas with one another and make a contribution to the development of a collaborative work culture (p. 138).

5. Teacher-leaders consistently identified their role in terms of helping and supporting other teachers in working with students and in improving practice. If the teachers as advocate can become skilled at integrating the change and the change process he or she can become one of the most powerful forces of change. Teachers working with other fellow teachers at the school and classroom levels is an important factor for improving practice (p. 138).

6. Teacher unions and professional associations should help to assess results and taking a more active leadership role in improvement and following up to support implementation (p. 138).

ii. The principal and change

Change is only one small part of the forces struggling for the principal's attention and usually not the more forcing one. Yet some principals are actively engaged as facilitators of continuous improvements in their schools. The principal is in the middle of the links between teachers and external ideas and people. The role of principal is in facilitating change, helping teachers work as a team, assessing and furthering school improvement. The importance of the principal is highlighted when we realise that many things must be done, even when he or she and the majority of teachers are in favour of a particular change. The school is the centre. The school is an organisation and organisations change more effectively when their heads play an active role in helping to lead improvement (p. 152).

Hall (1988) argued that:

> "principals do not lead change efforts single-handedly. Rather principals work with other change facilitators who in most cases are making a large number of interventions also. It was discovered in earlier studies that the key is not merely having other change facilitating teams. It is this team of facilitators under the lead of the principal that makes successful change happen in school" (quoted from Hall (1988), Fullan, 1991, p. 159).

iii. The student and change

Any innovation which requires new activities on the part of students will succeed or fail according to whether students are actively involved in these activities. Students will take part to the extent that they understand and are motivated to try what is expected. Any schools increase student motivation regardless of the student's background, performance and engagement in learning. Students in this kind of school are more likely to find school meaningful. Treating students as people will help living the academic, personal and social educational goals. Effective change in schools involves just as much cognitive and behavioural change on the part of students as it does for anyone else. The more sociologically accurate statement is that implementation in fact comprises a change in the role relationship between teachers and students. Critical to understanding educational change is the recognition that these changes in students and

teachers must go together, that is students themselves are being asked to change their thinking and behaviour in the classroom. Most students will not or cannot change simply by being lectured or ordered to, any more than the rest of us would. The reason that this issue is critical is that student motivation and understanding regarding a change are directly related to whether and how they engage in what we might call implementation activities which are the means to achieving the learning outcomes in question (Fullan, 1991,pp. 188,89).

iv. The district administrator and change

The task or the main goals of the district administrator is to direct the development and implementation of a system-wide method that explicitly addresses and takes into account all these courses of change at the district, school and classroom levels. Also to complete the district administration policies to increase the basic capacity of the system to manage change effectively (Fullan, 1991, p. 191).

Fullan (1991) suggested a number of important guidelines that administrators should consider. For example:

1. Choose a district in which change has a chance of occurring or do not expect much change. The interest in change of a district must be minimally present.

2. Once a district develops the management capabilities of administrators, also with other district administrators and principals to a direct change, apply a combination of promotion criteria, in-service training emphasising development and growth. The objective here is to develop incrementally the district's administrators' ability to direct and facilitate improvement. The administrator must also need and help principals to work with teachers.

3. Focus on instruction, teaching and learning and changes in the culture of schools. Both short-term and long-term strategies should be used consistently to establish

standards persistently and the capacity for collaboration and continuous advancement in the learning environments of students and educators.

4. Recognise that implementing any strategy for improvement is itself a necessary and basic implementation problem. Developing new procedures for improvement means working with system members over a period of time in which they increasingly come to recognise, modify, become skilled in and believe in the effectiveness of the approach to change being implemented.

5. Monitor the improvement process. The requirements for monitoring is always needed. The information gathering system to assess and address problems of implementation must be institutionalised. The more horizontal and vertical two-way communication that exists, the more knowledge there will be about the status of change (Fullan, 1991, p. 213).

6. Above all work on becoming an expert in the change process, vision building, think through problems and imagine what is the future alternative and play a part in a process of change that associates short and long-term strategies designed to create a second order of change at the school level, that is a basic instructional and structural changes that motivate and engage students and the adults working with them. Capacity for improvement must allow all aspects of the system and to put into practice and build the capacity of the district and the schools to handle all innovations (which is not to say to implement them all). The administrator who tries to deal with innovations one at a time will soon lose hope or suffer.

   The one who works over a five or six year period to develop the districts and school core capacity (that is teachers, principals, other administrators and the school board's capacity) to process the demands of change, whether they arise internally or externally to the district, may find change easier as time goes by (Fullan, 1991, p. 214).

Planned organisational change in education

Hoyle (1975) argued that:

The change agent can be an individual or a team depending on the situation. Where the problem is limited and highly specific, the necessary functions could be carried out by one individual but in most circumstances it is likely that a team would be required. Fundamentally, two kinds of knowledge are needed by the change agent - whether individual or team-involved in planned organisational change in education.

1. Curriculum knowledge is possessed by the individual experienced in the area of curriculum development. It contains a knowledge of objectives, content and teaching methods together with understanding with methods of evaluation and the proper body of research findings. As planned organisational change will commonly be concerned with curriculum change, a team would include curriculum development specialists, perhaps with special concern in certain areas (e.g. social, programmed learning, team teaching).

2. Behavioural science knowledge relevant to planned organisational change would be controlled by social psychologists, political scientists, anthropologists and economists who would share their expertise in this particular area. Each would bring to the situation the distinctive perspectives and system of his discipline which could be appropriate to a particular school problem, but there is evidence of a care for a convergence approach as between those behavioural scientists concerned with organisational change (Hoyle, 1975, pp. 303,304).

It is very important to clarify here that it is not practical to fulfil or perform all changes immediately but it is wise to give a sufficient period of time between each change, as Fullan (1991) explained:

> "the basic guideline is to work at fewer innovations but do them better because it is probably not desirable and certainly not humanly possible to implement all changes expected given what we know about the time and energy required for effective implementation" (p. 104).

Dalin (1978) clarified how real changes can be achieved. He said that without involvement of all members in educational institutions, change is unlikely to happen. The interaction of forces between schools and their environments and between the educational systems and society is the most important energy mobiliser in educational development. He suggested the importance of the comprehensive understanding of the forces at work in these relationships and the application of that awareness which is the foundation for planned educational changes (Dalin, 1978, p. 1). Dalin (1978) maintained that there will be some complex changes taking place outside school which will affect the curriculum inside school:

> "1. Change is a process phenomenon: it takes place over time, being both evolutionary or revolutionary, as a result of external factors.
>
> 2. Change is a systematic phenomenon, a deep rather than superficial phenomenon. We can talk about internal changes such as classroom organisation changes which do not change structures or roles or relationships or the dominant forces in society, but if we accept that changing the curriculum will set off a chain reaction, causing all sorts of other changes then we must see that to talk of changing a curriculum is to talk of changing the working of a system" (pp. 22,23).

The implications for those who are keen and willing to plan and carry out educational changes are very important, (Fullan, 1991, p. 105). Fullan outlined two interrelated sets of implications for consideration: 'What assumptions about change should we note?" and 'How can we plan and implement change more effectively?" He commented on the need to regard conflict as endemic to change, and the need for clarity in the inovation, on the need to prioritise changes and to set them in a time scale, on the need to explain the changes proposed, on the need for ownership of and involvement in the change (Fullan, 1991, pp. 105-7).

7.3 Recommendations

This section locates recommendations for policy makers and policy making and others involved in VTE in Qatar in the context of a theory of change. In order to evaluate these recommendations, it is desirable to set the list within the context of writings on implementing reforms and educational change.

1. The policies for VTE must be coherent and organised, not established randomly or by chance.
2. Vocational and technical education policy makers should set up and receive an adequate budget, evaluated by policy makers and planners, for urgent efforts which are needed for building new institutions in the urban and rural areas, to buy technological equipment, and to open more workshops, laboratories and classes.
3. The planners should design vocational programmes for the country's actual needs which should be introduced in stages.
4. Planners should encourage the Minister of Education and Higher Education to accept vocational and technical education diplomas as entry qualifications for the University of Qatar and for further education.
5. Vocational and technical education graduates should receive higher salaries and be treated in employment prospects equally with those who graduate from a general academic college.
6. An adequate number of government officials, along with other people who have influential positions in society, such as religious and tribal leaders, should encourage Qatari society and families to change their negative attitudes towards vocational and technical education schools and explain their value and the dignity of vocational occupation and manual work.
7. Up-to-date information centres in the field of vocational and technical education specialisation are required to supply the staff of vocational and technical education institutions with all the information they need. This is an important issue, and it is not easy to establish, but it should not be postponed to a later date.

8. As there is a need to develop human resources in all the country's activities, policy makers and planners should also concentrate on the private sector, as all vocational and technical institutions currently supply the government demand with skilled and semi-skilled needs for manpower. However, the private sector is far from having achieved the complete Qatarisation - the replacement of foreign workers with national manpower - of their labour force. They remain over-dependent on foreign labour.

   Planners and policy makers should create a relationship between vocational and technical educational institutions and the private sector, so as to shift some trained manpower into the private sector, in order to increase Qatarisation. In the current situation, the lack of co-operation between both sides creates the impression that vocational and technical education programmes are devised only for the public sector. Consequently the private sector in Qatar, where possible, avoids hiring Qatari citizens, preferring non-Qatari workers because they are cheaper and easier to control, and their employment is easy to terminate.

   Few private businesses have any incentives to and consequently no objectives for Qatarising manpower. If this issue is to be addressed, it requires strong policy direction by the government in favour of employing Qatari nationals in the private sector, offering an adequate salary and with some added incentives to attract more graduates into this sector. In regard to this, steps should be taken to encourage and expand on-the-job training programmes to respond to the needs of the private sector under the guidance of the government's authority.

9. Policy makers and planners in education must consider society's views of VTE needs, and then plan accordingly. All VTE programmes are designed to improve the society of Qatar, so it is very important to take society's views into consideration.

10. Preparation for vocational training programmes should include all human resources in every sector of the country, not only in vocational and technical education, but in all Ministries, organisations and companies.

11. Planners should implement new open schemes such as Y.T.S. in Britain and the Dual System in West Germany that will help Qatari young people who drop out

or who are unemployed, and also encourage those who are employed or students to join vocational and technical education schools.

12. Planners should set up advisory committees drawn from vocational and technical education, companies and different sectors to follow up the progress of vocational and technical educational programmes, especially on-the-job training, also concentrating on specialisations which are urgently needed.
13. Planners should find a solution to enable women's participation in vocational occupations within the framework of Islamic Law and the traditions and values of society.
14. The policies must consider society's values and reflect the socio-economics of the country at present and in the future.
15. Vocational and technical educational staff should participate in the policy making and planning process. This is a foundation for planned education change.
16. A community college should be established that will help vocational and technical education programmes in secondary schools to meet the university standard required for admission.
17. The government should give equal status to vocational staff, as well as academic general education staff and desk work.
18. All Qatari people are Muslim. Many verses in the Qur'an encourage Muslims to work. The type of work is unimportant, so long as it pleases God and does not contradict Islamic law. Policy makers and planners could draw on this major factor of Islam as a strength to develop human resources and vocational and technical educational programmes to teach students about the importance of work.
19. Policy makers and planners should attempt to benefit from the experience of other countries which have faced the same situation and see how they have solved their problems.
20. A centre should be established to impart instruction to local nationals as trainers and to make use of the currently available technical capabilities in the public sector. This will help in creating a new generation of technically competent, experienced persons who can work as trainers in the future.

21. A problem faced by vocational and technical education institutions is their location. Most are currently in Doha, the capital of Qatar, where the people enjoy a high standard of living and in which there are many general academic schools. Most students prefer to join general academic schools as a route to desk occupations, as shown in the study. Were the policy makers and planners to emphasise the establishment of a large number of these vocational and technical education institutions in the villages and other rural areas, student numbers might increase.

    The standard of living enjoyed by the village people is low compared to that in Doha. Few students continue with their studies, instead helping their fathers on the farm or fishing. Alternatively, they join the army so as to improve their standard of living by acquiring a respectable level of technical occupational training and salary. Vocational and technical education institutions in the villages might encourage those who currently leave education to stay on, and those who leave the villages for the army and technical qualifications to stay and gain their qualifications in the village.

22. For the benefit of the country as a whole, the existing vocational and technical education institutions should be overseen by one single independent authority responsible for all vocational and technical education activities.

23. Integration of vocational and technical education and the labour market should be developed.

24. Closer formal and informal relations between factories, industrial and business sector staff and vocational and technical education planners should exist to exchange ideas, information and assistance regarding vocational programmes through annual meetings.

25. Adequate numbers of private industry staff should participate in VTE committees.

26. The Ministry of Education must establish a close relationship between general academic education and vocational and technical education which will help to provide information about vocational programmes and the importance of these programmes for the country's development along the path of industry and the economy.

27. The Ministry of Education should reward students who pass and maintain projects. This could help to encourage students to enrol in vocational schools, also sending them abroad to attend courses in industrial countries such as the UK, USA and Japan.

28. The Ministry of Education should arrange courses for teachers and technical trainers to educate them in the best techniques of displaying the dignity of vocational occupations and build positive attitudes towards vocational and technical education in their studies and also amongst the parents during annual meetings. This may help to reduce the decline in vocational and technical education by students in general education schools and may also increase the awareness of aspirations and values of vocational occupations among students.

29. The Ministry of Education should design a curriculum which includes learning some skills which can help students to be capable of operating and maintaining their own tools and equipment.

30. Higher education authorities should recognise the qualifications awarded by VTE institutions after graduation from further education.

31. Higher education should become directly involved in the design, planning and evaluation of the further education curriculum, in order to enable students to cope with the higher education curriculum when they join higher education after graduation, as well as enabling them to meet the standards required for university admission. This is an important issue but need considerable time to be completed because it is an enormous factor.

32. Special programmes should be offered by the University of Qatar which are related to VTE, such as VTE counselling, VTE trainers and teachers and VTE administrators.

33. VTE institution diplomas should be accepted for further education and all VTE graduates should be admitted.

34. New specialisations should be addressed, such as those needed for working in dock yards, with fishing equipment and in the leather industry.

35. Joint courses and projects between further education students and higher education students are required that will help both parties to acquire and

exchange knowledge and to develop a relationship and cognitive skills. For example students from an engineering school can benefit from practical courses in further education, which will also help further education students to be more familiar with the university academic education environment, which will create self confidence when they join the university in the future.

36. They provide information concerning the nature of the vocational education programmes (e.g. what programmes are available, what they do, how they operate, and how are might become eligible to enter them).

37. They clarify the philosophy, goals and objective of VTE programmes.

38. They need to involve all staff in the work to ensure involvement and ownership.

39. Continuous training courses are required for vocational and technical education staff to upgrade their knowledge and skill and also to keep pace with scientific and technological progress, to keep themselves informed of the latest advancements in the vocational and technical education programme methods, to improve their performance so that they can provide students with knowledge, skills and relevant information.

40. Teachers and trainers should not be restricted when they teach or train merely for the purpose of imparting knowledge and skills to those who are seeking jobs, but should also keep pace with every scientific and technological progress.

41. VTE staff should arrange visits to factories, business sectors and industrial manufacturers every semester to observe and consider the significance of particular industrial fields and their benefits.

42. Parents should understand the importance of VTE programmes to improve the economic and industrial development of the country.

43. Planners and policy makers should take public opinion in general, and that of students' parents in particular, into consideration when they attempt to plan VTE programmes.

44. Parents' attitudes towards VTE ought to be changed through designing programmes in the media, such as radio, television and newspapers, to improve the image of the importance of vocational and technical education and the industry of the country in general. There could also be an annual week set by to

inform and educate the public about the role of VTE and its need to develop the economy and industry of Qatar.

45. Students who drop out of school can be moved into vocational and technical education schools.

46. Graduate students from VTE should work in the area for which they were trained and jobs should be made available for this, with financial incentives.

47. Students should choose the area which suits their ability and capability and their actual desires, based also on the results of diagnostic assessment.

48. Planners and policy makers should prepare programmes to educate Qataris and improve the image of vocational and technical education in society, using mass media to maximum capacity through TV, radio newspapers, seminars in schools and clubs.

49. Mass media can also play a major role in persuading Qatari families to advise their sons and daughters to enrol in vocational and technical education programmes and choose the area which is related to their interest.

50. Those who are known in Qatari society for writing articles in newspapers should write articles to show the importance of vocational and technical training and technical education in the newspapers and magazines.

51. The Ministry of Information, in co-operation with the Ministry of Education, should establish programmes on TV to attract more children and youth to show how VTE can help people to maintain their equipment in the home or in shops and gardens.

52. Encouraging a linkage between QGPC (TC) and other VTE institutions to achieve the objectives of increased communication, co-ordination and collaboration for the purpose of developing VTE.

53. More opportunities should be provided for trainers in the QGPC to gain actual experience on the job to advance the skills they have learned.

54. Instructors and trainers should be involved in the planning of vocational and technical education policy concerning the decision making process.

55. Careers education must be emphasised in the Training Centre in order to instil work-oriented values, to make the student more aware of what jobs are required.

56. Because most trainers and instructors are non-Qatari, it is very important for QGPC vocational and technical education leaders to give more opportunity to Qatari youth in recruitment.

57. Because the building of the Industrial Secondary School is old, built in 1954, and located in an urban area, the area of land is not large. The researcher suggests that a new building should be established in a place where land is available. New workshops with adequate equipment should also exist for all specialisations in general, and mechanical and technical specialisations in particular.

58. Careers counsellors should be available to direct students to an appropriate specialisation.

59. The on-the-job training period should be long enough for students to practise what they have learned in school.

60. Meetings between students' parents and school staff should be held from time to time to discuss the matter of different subjects which are related to the school. That will involve parents in the education process.

61. Because the Industrial Secondary School is suffering from a large number of students who drop out, the school staff should follow up those students and find the reason behind the drop out rate in order to try to reduce it.

62. Up-to-date equipment such as computers and banking machines should be available for all students.

63. A strong relationship between school, banks and financial organisations should exist to train students for those organisations.

64. In-house and overseas training courses should be provided for all staff in different specialisations to refresh their information and knowledge about their subjects.

65. Visits should be arranged to different schools by members of staff in order to give information about the role of the Commercial School in developing the economy of the country.

66. Discussion of the recognition of the diploma certificate should take place with the officials to help graduates to continue their studies in the university.

67. The progress of graduates who work in different parts of the country should be tracked to discover the kinds of problems that they face in their work in order to find a solution.

68. Up-to-date literature for students in the specialisation should be available in the library.

69. In order to ensure effective training, RTC staff should upgrade and improve their instructional ability, skills and related technical knowledge.

70. The diploma certificate awarded by RTCs should be recognised by all companies.

71. RTC students should be introduced to various sectors of industry. For example students from RTC should spend some time in different industrial and business sectors to become more familiar with activities in those sectors.

72. For close and continuous co-operation with other VTE institutions it is necessary to have direct contact to exchange information and knowledge about VTE, and also to exchange VTE trainees for some specialisations.

73. Establish a demonstration centre in order to show the general public what students do and for students to demonstrate their skills.

74. The diploma certificate which is awarded by the Technology College should be recognised by the University of Qatar and allow graduates to continue into higher education.

75. The Technology College should recognise the certificates of VTE institutions and allow graduates of those institutions to continue into further education.

76. Because most of the Technology College staff are very highly qualified, it is very important for them to maintain a close relationship with all VTE institutions, to advise those institutions and evaluate their curriculum and training activities.

77. A new building should be established with modern technological equipment and a reasonable library, incorporating relevant texts and reading space. Films, slides and models should also be made available.

78. Laboratory facilities should be available. Students should also be using the Ministry of Health laboratory as part of their on-the-job training.

79. Teaching materials should be developed and obtained for the required specialisms.

80. Links between the Ministry of Education, as well as Higher Education, should exist to enable Nursing Institute graduates to continue into Higher Education.

81. In order to ensure high quality nurses attention should be given to the standard of the intake.

82. Improvement in numbers and standard of teachers and trainers is necessary through in-house and overseas courses, which will raise their abilities and knowledge for teaching and training.

83. Clear job descriptions should be developed for trainers, teachers and administrators to enable all Institute staff to know the parameters of their work.

84. Because Qatari society gives high respect to the religious leaders, those leaders can play an essential role to persuading the Qatari youth and families about the importance of VTE for developing the Qatari economy it is suggested that leaders can give some example from the Holy Quran and the Prophet's attitudes for respecting manual work, through lectures and articles.

Clearly different recommendations in the list are of use to different groups and are of different degrees of importance. The following section considers the recommendations relevant to the following groups:

1. National Planners and Policy Makers.
2. The Suggested Authority.
3. Private Industry.
4. Ministry of Education.
5. Higher Education.
6. Further Education.
7. School Administrators.
8. School Teachers and Trainers.
9. Parents.
10. Students.
11. Mass Media.
12. QGPC (Training Center).
13. Industrial Secondary School.

14. Commercial School.
15. Regional Training Centres.
16. Technology College.
17. Nursing Institution.
18. Religious Leaders.

The recommendations in term of educational change are as follows:

From the above discussion about educational change, there are some major issues one can extract which will help planners and policy makers in the state of Qatar to implement any of these recommendations.

- Involving all parties who are responsible for VTE in Qatar to help find a solution for the problems facing VTE programmes.
- Changes starting from school require support and help from top authorities to work together to solve any problems which may arise in the future.
- Planners and policy makers in Qatar should plan their goals through short-term and long-term objectives.
- Those who are responsible for VTE in Qatar should work together as organisations which will be able to make them able to reply creatively and all members will participate in full.
- Teachers in VTE in Qatar can play effective roles in educational change. Good teachers mean more confidence and certainty in decision making, problem solving and bringing about improvement which will in the end help student achievement.
- VTE teachers or supervisors in Qatar should determine which issues are high priority and which are low priority when they start to change because sometimes teachers and supervisors find that there are too many changes at once, so it is important for teachers and supervisors to know where to put their efforts.
- VTE administration should support change through freeing up important resources for the innovation to succeed.
- VTE teachers should always contribute new ideas for improvement and exchange better ideas between them and support other teachers in working with students to be a more powerful team of change.

- VTE principals in Qatar should act as links between teachers and supervisors on the one hand and external ideas and people on the other. The role of the principal of VTE institutions in Qatar should be as facilitators of change and helping teachers to work as a team.
- Planners and policy makers in Qatar should give students of VTE the opportunity to be involved in educational change regardless of students' performance because treating students as part of the whole process will help the goals of educational change to occur.
- District administrators in the state of Qatar can help VTE institutions to direct change and take into account all the courses of change at the district, school and classroom levels.
- Short-term and long-term strategies should be established by planners and policy makers in the state of Qatar to enable continuous advancement in the learning environment of students and educators in VTE in Qatar.
- VTE planners and policy makers in the state of Qatar should always think through problems and imagine what the future alternatives are, and play a part in a process of change that associates short and long-term strategies designed to create a second order of change at VTE schools.
- It is worthwhile for those who are responsible for VTE in Qatar to work as a team in planned organisational change in education because the problems which surround VTE are massive.
- Teams will help curriculum development specialists, perhaps with special concern in certain areas (e.g. social, programmed learning, team teaching).

All the above issues about educational change will appear in the recommendations.

Recommendations for National Planners and Policy Makers

The current recommendations were developed for national planners and policy makers as a result of the discussion in Chapter Six and also from the findings of a review of source and the students and staff questionnaires to establish strong and effective policies for successful vocational and technical education programmes in Qatar. The researcher gave careful consideration to time limits for the plan for each

recommendation in order to identify when it will be used and when it is best implemented.

High Priority Recommendation

Short Term

1. The policies for VTE must be coherent and organised, not established randomly or by chance. This recommendation is very important because any failure in the policies could destroy any effort or attempt in the future (cf Fullan 1991).
2. Vocational and technical education policy makers should set up and receive an adequate budget, evaluated by policy makers and planners, for urgent efforts which are needed for building new institutions in the urban and rural areas, to buy technological equipment, and to open more workshops, laboratories and classes. This recommendation cannot be delayed because no project will succeed without an adequate budget (cf Dalin 1993).
3. The planners should design vocational programmes for the country's actual needs which should be introduced in stages. This is important because it is difficult to meet all of the country's needs at one time and in a short period, but it is important that it should be done effectively (cf Fullan, 1991).

Medium Term

1. Planners should encourage the Minister of Education and Higher Education to accept vocational and technical education diplomas as entry qualifications for the University of Qatar and for further education. This requires some time for discussion with all members in charge of departments, so it should not be delayed.
2. Vocational and technical education graduates should receive higher salaries and be treated in employment prospects equally with those who graduate from a general academic college. This recommendation is necessary, but also needs some time for discussion as a result of its complexity (cf Hoyle 1976).
3. An adequate number of government officials, along with other people who have influential positions in society, such as religious and tribal leaders, should

encourage Qatari society and families to change their negative attitudes towards vocational and technical education schools and explain their value and the dignity of vocational occupation and manual work. This is an enduring feature which must be present at all times.

4. Up-to-date information centres in the field of vocational and technical education specialisation are required to supply the staff of vocational and technical education institutions with all the information they need. This is an important issue, and it is not easy to establish, but it should not be postponed to a later date.

Long Term

1. As there is a need to develop human resources in all the country's activities, policy makers and planners should also concentrate on the private sector, as all vocational and technical institutions currently supply the government demand with skilled and semi-skilled needs for manpower. However, the private sector is far from having achieved the complete Qatarisation - the replacement of foreign workers with national manpower - of their labour force. They remain over-dependent on foreign labour.

   Planners and policy makers should create a relationship between vocational and technical educational institutions and the private sector, so as to shift some trained manpower into the private sector, in order to increase Qatarisation. In the current situation, the lack of co-operation between both sides creates the impression that vocational and technical education programmes are devised only for the public sector. Consequently the private sector in Qatar, where possible, avoids hiring Qatari citizens, preferring non-Qatari workers because they are cheaper and easier to control, and their employment is easy to terminate.

   Few private businesses have any incentives to and consequently no objectives for Qatarising manpower. If this issue is to be addressed, it requires strong policy direction by the government in favour of employing Qatari nationals in the private sector, offering an adequate salary and with some added incentives to attract more graduates into this sector. In regard to this, steps should be taken to encourage and expand on-the-job training programmes to respond to the needs

of the private sector under the guidance of the government's authority. This is a big issue, and it should be started immediately, because of its importance, though it will take time to be effective (cf Fullan 1991).

2. Policy makers and planners in education must consider society's views of VTE needs, and then plan accordingly. All VTE programmes are designed to improve the society of Qatar, so it is very important to take society's views into consideration.

3. Preparation for vocational training programmes should include all human resources in every sector of the country, not only in vocational and technical education, but in all Ministries, organisations and companies. This is highly recommended but it will take some time to complete because of the size of this issue.

4. Planners should implement new open schemes such as Y.T.S. in Britain and the Dual System in West Germany that will help Qatari young people who drop out or who are unemployed, and also encourage those who are employed or students to join vocational and technical education schools. Although this factor is very important, it could be introduced at a later date.

Medium Priority Recommendation

Short Term

1. Planners should set up advisory committees drawn from vocational and technical education, companies and different sectors to follow up the progress of vocational and technical educational programmes, especially on-the-job training, also concentrating on specialisations which are urgently needed. This is an important issue; it should begin now but will take some time to complete.

2. Planners should find a solution to enable women's participation in vocational occupations within the framework of Islamic Law and the traditions and values of society. This will require a great effort, but with smooth implementation this target could be achieved; this should be begun as soon as is possible.

Medium Term

1. The policies must consider society's values and reflect the socio-economics of the country at present and in the future.
2. Vocational and technical educational staff should participate in the policy making and planning process. This is a foundation for planned education change.
3. A community college should be established that will help vocational and technical education programmes in secondary schools to meet the university standard required for admission.
4. The government should give equal status to vocational staff, as well as academic general education staff and desk work. It will require some time to find a solution to this problem.
5. All Qatari people are Muslim. Many verses in the Qur'an encourage Muslims to work. The type of work is unimportant, so long as it pleases God and does not contradict Islamic law. Policy makers and planners could draw on this major factor of Islam as a strength to develop human resources and vocational and technical educational programmes to teach students about the importance of work.

Long Term

1. Policy makers and planners should attempt to benefit from the experience of other countries which have faced the same situation and see how they have solved their problems.
2. A centre should be established to impart instruction to local nationals as trainers and to make use of the currently available technical capabilities in the public sector. This will help in creating a new generation of technically competent, experienced persons who can work as trainers in the future.
3. A problem faced by vocational and technical education institutions is their location. Most are currently in Doha, the capital of Qatar, where the people enjoy a high standard of living and in which there are many general academic schools. Most students prefer to join general academic schools as a route to desk occupations, as shown in the study. Were the policy makers and planners to

emphasise the establishment of a large number of these vocational and technical education institutions in the villages and other rural areas, student numbers might increase.

The standard of living enjoyed by the village people is low compared to that in Doha. Few students continue with their studies, instead helping their fathers on the farm or fishing. Alternatively, they join the army so as to improve their standard of living by acquiring a respectable level of technical occupational training and salary. Vocational and technical education institutions in the villages might encourage those who currently leave education to stay on, and those who leave the villages for the army and technical qualifications to stay and gain their qualifications in the village. This is also a very important issue which will require great effort and finance, and so it may have to be postponed.

Recommendations for the Suggested Authority to Take Responsibility for all Vocational and Technical Activities

For the benefit of the country as a whole, the existing vocational and technical education institutions should be overseen by one single independent authority responsible for all vocational and technical education activities. This should be a high priority needed in the short term. The major functions of this authority would be to:

High Priority

Short Term

1. Audit, monitor, design and evaluate the programmes which exist in every vocational and technical education institution. It is very important action to start with, before any amendment in the near future.

Medium Term

1. Co-operate with different public and private sectors to estimate the demand and supply of the semi-skilled labour force. This will clarify the percentage of skilled labour force required in the future.

2. Have responsibility for the hire of technical trainers, administrators and teachers. In this respect, the results of the study showed that large percentages of trainers and administrators had no work experience in industrial or economic fields. It is important to upgrade the quality of the teachers and trainers.
3. Update and modify the instructional materials as job needs change.
4. Assess students' progress at each level of training activity and ensure that one skill is mastered before going on to the next.

Medium Priority

Short Term

1. Evaluate teaching and training performance.
2. Forecast the type of training programmes needed for the future, an ongoing factor.

Medium Term

1. Take into account the training needs for short and long term labour requirements.
2. Arrange for effective compulsory training courses for VTE staff which will be designed and arranged through this authority. It is a large issue; it can begin now but will take some time to complete.
3. Tailor instructional materials that will enable trainers to learn skills at their own pace and in ways that they learn best.
4. Prepare instructional staff to maximise this learning process. It could start after some general survey or test to assess the staff's capability.

Long Term

1. Identify people who will be sent abroad to acquire the most up-to-date techniques in vocational and technical education. It could be delayed for some time until other important factors are completed.
2. Identify the specific level of skills and knowledge to perform a given occupation in the market place.

Recommendations for Private Industry

High Priority

Long Term

1. Integration of vocational and technical education and the labour market should be developed.

Medium Term

1. Closer formal and informal relations between factories, industrial and business sector staff and vocational and technical education planners should exist to exchange ideas, information and assistance regarding vocational programmes through annual meetings.
2. Adequate numbers of private industry staff should participate in VTE committees.

Recommendations for the Ministry of Education

High Priority

Long Term

1. The Ministry of Education must establish a close relationship between general academic education and vocational and technical education which will help to provide information about vocational programmes and the importance of these programmes for the country's development along the path of industry and the economy.
2. The Ministry of Education should reward students who pass and maintain projects. This could help to encourage students to enrol in vocational schools, also sending them abroad to attend courses in industrial countries such as the UK, USA and Japan.

Medium Priority

Medium Term

1. The Ministry of Education should arrange courses for teachers and technical trainers to educate them in the best techniques of displaying the dignity of vocational occupations and build positive attitudes towards vocational and technical education in their studies and also amongst the parents during annual meetings. This may help to reduce the decline in vocational and technical education by students in general education schools and may also increase the awareness of aspirations and values of vocational occupations among students.

Long Term

1. The Ministry of Education should design a curriculum which includes learning some skills which can help students to be capable of operating and maintaining their own tools and equipment.

Recommendations for Higher Education

High Priority

Short Term

1. Higher education authorities should recognise the qualifications awarded by VTE institutions after graduation from further education.

Long Term

1. Higher education should become directly involved in the design, planning and evaluation of the further education curriculum, in order to enable students to cope with the higher education curriculum when they join higher education after graduation, as well as enabling them to meet the standards required for university admission. This is an important issue but need considerable time to be completed because it is an enormous factor.

Low Priority

Long Term

1. Special programmes should be offered by the University of Qatar which are related to VTE, such as VTE counselling, VTE trainers and teachers and VTE administrators.

Recommendations for Further Education

Higher Priority

Short Term

1. VTE institution diplomas should be accepted for further education and all VTE graduates should be admitted.

Low Priority

Long Term

1. New specialisations should be addressed, such as those needed for working in dock yards, with fishing equipment and in the leather industry.
2. Joint courses and projects between further education students and higher education students are required that will help both parties to acquire and exchange knowledge and to develop a relationship and cognitive skills. For example students from an engineering school can benefit from practical courses in further education, which will also help further education students to be more familiar with the university academic education environment, which will create self confidence when they join the university in the future.

Recommendations for School Administrators

Because administrators have a major responsibility for planning, co-ordinating and monitoring the implementation of an effective public relations programme for their institutions it is recommended that:

1. They provide information concerning the nature of the vocational education programmes (e.g. what programmes are available, what they do, how they operate, and how are might become eligible to enter them).
2. They clarify the philosophy, goals and objective of VTE programmes.
3. They need to involve all staff in the work to ensure involvement and ownership.

Recommendations for School Teachers and Trainers

1. Continuous training courses are required for vocational and technical education staff to upgrade their knowledge and skill and also to keep pace with scientific and technological progress, to keep themselves informed of the latest advancements in the vocational and technical education programme methods, to improve their performance so that they can provide students with knowledge, skills and relevant information.
2. Teachers and trainers should not be restricted when they teach or train merely for the purpose of imparting knowledge and skills to those who are seeking jobs, but should also keep pace with every scientific and technological progress.
3. VTE staff should arrange visits to factories, business sectors and industrial manufacturers every semester to observe and consider the significance of particular industrial fields and their benefits.

Recommendations for Parents

1. Parents should understand the importance of VTE programmes to improve the economic and industrial development of the country.
2. Planners and policy makers should take public opinion in general, and that of students' parents in particular, into consideration when they attempt to plan VTE programmes.
3. Parents' attitudes towards VTE ought to be changed through designing programmes in the media, such as radio, television and newspapers, to improve the image of the importance of vocational and technical education and the industry of the country in general. There could also be an annual week set by to inform and educate the public about the role of VTE and its need to develop the economy and industry of Qatar.

Recommendations for Students

1. Students who drop out of school can be moved into vocational and technical education schools.
2. Graduate students from VTE should work in the area for which they were trained and jobs should be made available for this, with financial incentives.
3. Students should choose the area which suits their ability and capability and their actual desires, based also on the results of diagnostic assessment.

Recommendations for Mass Media

1. Planners and policy makers should prepare programmes to educate Qataris and improve the image of vocational and technical education in society, using mass media to maximum capacity through TV, radio newspapers, seminars in schools and clubs.
2. Mass media can also play a major role in persuading Qatari families to advise their sons and daughters to enrol in vocational and technical education programmes and choose the area which is related to their interest.

3. Those who are known in Qatari society for writing articles in newspapers should write articles to show the importance of vocational and technical training and technical education in the newspapers and magazines.
4. The Ministry of Information, in co-operation with the Ministry of Education, should establish programmes on TV to attract more children and youth to show how VTE can help people to maintain their equipment in the home or in shops and gardens.

Recommendations for the QGPC Training Centre

1. Encouraging a linkage between QGPC (TC) and other VTE institutions to achieve the objectives of increased communication, co-ordination and collaboration for the purpose of developing VTE.
2. More opportunities should be provided for trainers in the QGPC to gain actual experience on the job to advance the skills they have learned.
3. Instructors and trainers should be involved in the planning of vocational and technical education policy concerning the decision making process.
4. Careers education must be emphasised in the Training Centre in order to instil work-oriented values, to make the student more aware of what jobs are required.
5. Because most trainers and instructors are non-Qatari, it is very important for QGPC vocational and technical education leaders to give more opportunity to Qatari youth in recruitment.

Recommendations for the Industrial Secondary School

1. Because the building of the Industrial Secondary School is old, built in 1954, and located in an urban area, the area of land is not large. The researcher suggests that a new building should be established in a place where land is available. New workshops with adequate equipment should also exist for all specialisations in general, and mechanical and technical specialisations in particular.
2. Careers counsellors should be available to direct students to an appropriate specialisation.

3. The on-the-job training period should be long enough for students to practise what they have learned in school.
4. Meetings between students' parents and school staff should be held from time to time to discuss the matter of different subjects which are related to the school. That will involve parents in the education process.
5. Because the Industrial Secondary School is suffering from a large number of students who drop out, the school staff should follow up those students and find the reason behind the drop out rate in order to try to reduce it.

Recommendations for the Commercial School

1. Up-to-date equipment such as computers and banking machines should be available for all students.
2. A strong relationship between school, banks and financial organisations should exist to train students for those organisations.
3. In-house and overseas training courses should be provided for all staff in different specialisations to refresh their information and knowledge about their subjects.
4. Visits should be arranged to different schools by members of staff in order to give information about the role of the Commercial School in developing the economy of the country.
5. Discussion of the recognition of the diploma certificate should take place with the officials to help graduates to continue their studies in the university.
6. The progress of graduates who work in different parts of the country should be tracked to discover the kinds of problems that they face in their work in order to find a solution.
7. Up-to-date literature for students in the specialisation should be available in the library.

Recommendations for the Regional Training Centres

1. In order to ensure effective training, RTC staff should upgrade and improve their instructional ability, skills and related technical knowledge.
2. The diploma certificate awarded by RTCs should be recognised by all companies.
3. RTC students should be introduced to various sectors of industry. For example students from RTC should spend some time in different industrial and business sectors to become more familiar with activities in those sectors.
4. For close and continuous co-operation with other VTE institutions it is necessary to have direct contact to exchange information and knowledge about VTE, and also to exchange VTE trainees for some specialisations.
5. Establish a demonstration centre in order to show the general public what students do and for students to demonstrate their skills.

Recommendations for the Technology College

1. The diploma certificate which is awarded by the Technology College should be recognised by the University of Qatar and allow graduates to continue into higher education.
2. The Technology College should recognise the certificates of VTE institutions and allow graduates of those institutions to continue into further education.
3. Because most of the Technology College staff are very highly qualified, it is very important for them to maintain a close relationship with all VTE institutions, to advise those institutions and evaluate their curriculum and training activities.

Recommendations for the Nursing Institution

1. A new building should be established with modern technological equipment and a reasonable library, incorporating relevant texts and reading space. Films, slides and models should also be made available.
2. Laboratory facilities should be available. Students should also be using the Ministry of Health laboratory as part of their on-the-job training.

3. Teaching materials should be developed and obtained for the required specialisms.
4. Links between the Ministry of Education, as well as Higher Education, should exist to enable Nursing Institute graduates to continue into Higher Education.
5. In order to ensure high quality nurses attention should be given to the standard of the intake.
6. Improvement in numbers and standard of teachers and trainers is necessary through in-house and overseas courses, which will raise their abilities and knowledge for teaching and training.
7. Clear job descriptions should be developed for trainers, teachers and administrators to enable all Institute staff to know the parameters of their work.

Recommendations for Religious Leaders

Because Qatari society gives high respect to the religious leaders, those leaders can play an essential role to persuading the Qatari youth and families about the importance of VTE for developing the Qatari economy it is suggested that leaders can give some example from the Holy Quran and the Prophet's attitudes for respecting manual work, through lectures and articles.

7.4 Curriculum Development and Change

The situation of VTE in Qatar has changed slowly. Some attempts were made by the UNESCO (1989) to improve the status of VTE but no dramatic change has occurred. The author has suggested a number of recommendations for change, which should be appreciated by all policy makers and planners if these are to contribute to improving the situation of VTE. Dalin (1978) suggested that change is "a deliberate attempt to improve practice in relation to certain desired objectives" (p. 24). Richards (1974) explained innovation as

> "the creative selection organization and utilization of human and material resources in new and unique ways which will result in the attainment of a higher level of achievement of the defined goals and objective" (p. 32).

It is goal directed and directed to improvement. Change may also affect some people's interest or power, as Fullan (1991) says:

> "we should feel especially sorry for those in authority positions (middle management in district offices, principles, intermediate government personal in provincial and state regional offices) who are responsible for leading or seeing to implementation but do not want or do not understand the change either because it has not been sufficiently developed (and is literally not understandable) or because they themselves have not been involved in deciding on the change or have not received adequate orientation or training" (p. 104).

Any significant attempt at educational change will face a number of barriers or resistances. Non-implementable programmes and improvements can do more harm than good if they are attempted (Fullan, 1991, p. 104).

Dalin (1978) mentioned four categories of barriers:

1. Value Barriers. Sometimes resistance occurs because people have different ideologies, ways of thinking and beliefs, which can make changes look more significant according to the outlook of the observer.
2. Power Barriers. These barriers are the results of the redistribution of power within the system which comes as a result of significant innovation.
3. Practical Barriers. 'Innovations often break down simply because they are misunderstood. Resistance to adopting them is a natural reaction. At other times barriers result from inadequate management of the innovation process, resulting in unwanted practical problems for individuals and groups' (p. 25).
4. Psychological Barriers. Some people may resist change even though the innovation does not challenge their values and affect their power. It might be that there is no great obstacle connected with the innovation.

Dalin concluded that:

> "If it is to succeed, strategies will indeed need to be developed to overcome those barriers that can and should be confronted. It should not however be too readily assumed that all barriers should be overcome in the sense that some of the innovation may have to change" (Dalin, 1978, p. 25).

What resistance might occur and how might these resistances be overcome?

Resistances from Policy Makers and Planners and Overcoming the Resistances

1. Because of the high cost of VTE programmes in comparison to general academic education, policy makers might resist or delay any improvement to the VTE programmes.

   - To solve this problem, it is possible to make a plan with different stages: short term, medium term and long term, so that it need not cost a lot of money all at once. Five year or ten year plans based on priorities can be made through which VTE programmes can be developed so that direct costs can be minimised.

   For example, this suggestion was supported by Cracknell (1984) when he pointed out that the amount of money being spent on a project evaluation should be allocated one per cent of the budget for each phase to cover the cost, but before the start of evaluation, it is preferable to begin with identifying the objectives of the project and not start just the immediate aims in terms of input and output, but the long-term objectives and goals (p.57)

   O'Donoghue (1971) argued that:

   > "First let us look at the association between income levels and spending on education. One aspect of this was touched upon only in a general way above, namely that the proportion of income spent on education would rise during a period in which education remained unchanged but national income fell. One solution to this type of problem is to calculate the income elasticity of demand, that is to calculate how demand changes as income changes. If expenditure is taken as being the measurement of demand this income-elasticity measure can be calculated by comparing the rate of change in educational spending with the rate of change in national income (or expenditure). Rates of change can be established in two ways: one is by analysing the income and spending data at different points in time for the same spending units by using time-series analysis" (p. 17).

2. The policy makers and planners might not appreciate any change because of the small numbers of students who enrol and show an interest in such a type of education.

- A graduate, technical, skilled labour force is one of the most important factors for any country, because those graduates are considered as an investment for the country to bridge a critical shortage skilled workers in the country.

3. It is cheaper to recruit a foreign labour force than train young Qataris.
   - A solution to this problem might be through persuading policy makers and planners that a national labour force has an advantage over foreign labour force (e.g. truthfulness, sincerity and permanency).

Sheehan (1973) pointed out that the rates of return to investment in education and manpower increases in labour productivity and national output from education are reflected in the earnings of educated people. Also, the manpower approach involves the manpower educational requirements link, that is the hypothesis that various categories of skilled manpower have prior educational requirements and that without these requirements, manpower of the appropriate skills will either be unobtainable or will have significantly lower levels of productivity than educational requirements. Other occupations may be important as sources of productivity increase (pp. 92,93).

4. The policy maker and planners might resist because they have not been involved in the study.
   - It is possible for the researcher to submit to the policy makers and planners a copy of the existing study and present it to those concerned authorities (The Supreme Council for Planning) responsible for planning in every respect in the whole country, in order that they review the findings of this study.

Resistance from Ministries or Organisations who Dominate VTE Institutions, and Overcoming the Resistance

1. Because all VTE institutions are controlled by different Ministries or organisations, such as the Ministry of Education, Ministry of Health, University of Qatar and the Qatar General Petroleum Corporation, they may resist the changes, especially the author's suggestion that VTE institutions should be controlled by one single authority, as this might reduce their influence an VTE.

- This problem can be overcome by forming a committee from different concerned sectors in a balanced way. This committee could be part of the single authority which is recommended by the researcher.

2. Because improving VTE programmes is very costly and most government sectors suffer from financial problems because of the decline in oil prices, those Ministries and organisations might not favour any change because of the effect on their budgets. For example, the Ministry of Education's 1989/90 budget (in Qatari Riyals) was 917,355,440 while in 1990/91 it was 928,795,215 and in 1991/92 it was 916,087,268.

If we look to the budget between 1989/90 and 1991/92 we can see that it was declining (Ministry of Education in co-operation with Qatar National Commission for Education, Culture and Science, 1992, p. 21).

- The government can cover part of the expenses of the VTE programmes possibly through a special budget for this purpose or through increasing the budget of the ministries and organisations which will benefit from VTE programmes.

Resistance from VTE Staff and Overcoming the Resistance

1. VTE staff might not appreciate any change because of the centralisation in the decision making system followed in the State of Qatar, which prevents them from becoming involved in VTE curriculum planning.
   - This can be addressed through giving VTE staff the opportunity for practical involvement in the VTE curriculum planning programmes.
2. Because of the routine work which VTE staff have used for so long, they might oppose any changes because of the extra effort and training involved.
   - Through material and moral encouragement for those who will participate in the courses and in the awareness raising programmes, it is possible to overcome this problem gradually.
3. Most VTE staff are not nationals and may not be very enthusiastic about any change as this will be to their disadvantage in employment.

- This can be addressed through formulating policies which make practical participation in technical development programmes one important condition for promotion bonuses and the renewal of employment contracts.

Resistance from Students and Overcoming the Resistance

1. The author suggested a programme evaluation for every student before specialising in any particular section. This may be rejected by students because sometimes they choose a specialisation which does not match their ability because they would like to join friends or because the government demands specific jobs, as mentioned in chapter six.
   - This can be addressed through awareness-raising programmes which aim at directing students towards choosing what suits their ability and creative capabilities.
2. Most VTE students are looking for a certificate that can help them to acquire a job after graduation rather than any improvement in VTE programmes, which would place more stress on the VTE curriculum. This might face resistance because students do not want an additional load on their subject of study.
   - This can be addressed through convincing students that real life necessitates highly skilled technicians to enable them to work in factories and workshops skilfully and properly and that highly skilled people are needed because it is the criterion for promotion, getting a bonus, keeping the position and for meeting the demand of competition.

Resistance from the Private Industry Sector and Overcoming the Resistance

1. Private industry might reject any change because new trainees joining the company will need a long period of time to cope with the industrial environment and will need supervision and career counselling to direct them until they are able to perform the real job in the production process.
   - This can be addressed through formulating a strong policy by the government to steer the private sector to practical participation, to recruit a national

labour force, even if that takes a relatively long time in training, because the future outcome will be reflected positively on the country in general and on the private sector in particular.

2. Private industry might not wish to become involved in training programmes because any contributions to expenses may affect their budget.
   - Even if the direct cost of qualifing VTE graduates is very high in the short term, it is profitable and positive in the long term for the country and also for the private sector.
3. The Private Industry Sector might reject recruiting any Qatari graduates from VTE institutions and prefer to hire non-Qataris because they have more experience, do not need training to do the job, and can be paid a lower salary than Qataris.
   - This can be addressed enacting some policies by the authorities to take a certain percentage of the national labour force to enable these organisation (private sectors) to show that they are really participating in the development of the country.

In conclusion, it is worth mentioning that the primary goal of VTE has been, and continues to be, the preparation of individuals for meaningful employment. If VTE is to achieve this goal it must ensure that the curriculum offered reflects actual employment needs, both in type and level of employment. To meet this objective requires a plan - a guide to a programme of study to be offered by schools or institutions.

The policy makers and planners of VTE in Qatar have a great role to play in providing administrators, trainers or teachers with access to the necessary information or data bases, to confirm that each individual curriculum is co-ordinated with total school programmes to form a cohesive whole. The curriculum is a guide. It outlines what is to be covered in each occupational speciality and what level of skill will be taught.

What Factors Need to be Considered in Developing a Curriculum?

1. Policy makers and planners must be knowledgeable about everything relevant to the VTE philosophy and mission of the educational institution in the state and all VTE staff should be aware of that and ensure that the curriculum derives from this basis.
2. One final source of all such data and inputs is from discovery how adequately the present VTE curriculum is preparing students for employment and what training gaps exist.

Involving Staff in Curriculum Development

Planners of VTE need to make decisions concerning who is to have responsibility for developing the curriculum. Depending on the situation and staffing patterns, this may be a curriculum developer, a district supervisor, a departmental head or individual teachers. Finally, for effective curriculum development, advance planning of staff time must be budgeted to allow a thorough and proper job of curriculum development to take place when it is required.

7.4.1 A Curriculum Theory Model

It is important to mention here that when the policy makers and planners in Qatar start to design a curriculum it is useful to produce a guideline for modelling the curriculum, bearing in mind that the curriculum planning model must clarify its scope. Morrison and Ridley (1988) explain this, citing Havelock (1973) :

Curriculum planning should cover:

> "1. Participants and roles, school organisational, administration and management structures and networks.
>
> "2. Contexts of the curriculum - historical, ideological, philosophical, sociological, cultural, political, psychological.
>
> "3. The relationships of the school and its curriculum to wider society.
>
> "4. Curriculum aims, content, pedagogies, resources, evaluation, development strategies and directions.
>
> "5. Styles and models of curriculum planning and dissemination - problem-solving, interactive and centre-periphery" (Morrison and Ridley, 1988, p. 35).

One of the most important models which could be used by curriculum planning in Qatar is Skilbeck's (1975) curriculum development model (see Appendix G)

Skilbeck's model puts interaction at the heart of the planning process; the recommendation set out in this chapter an successful interaction between all parties if success is to be achieved.

7.5 A Critique of the Research - its Strengths and Weaknesses

This study is the first carried out in the field of vocational and technical education in the State of Qatar. Because the problems which surround vocational and technical education are serious, one study will not solve them entirely This study provides some ideas and background for some researchers to use as a starting point for future research. It is very important to indicate here that this study has strengths and weaknesses, as any other study.

Strengths

1. Comparative study about VTE in the two levels throughout the research (i.e., industrial countries, such as the UK, West Germany, Japan and USA, as well as developing Arab countries like Kuwait, Egypt and Saudi Arabia) is considered by the researcher to be valid because this comparison displays a clear picture about the different models. As a result of this, it becomes easier to generate a certain model of training programmes which could be pertinent to the State of Qatar.
2. The large size of the sample strengthened the research.
3. The comprehensive response from the sample under study, despite their different characteristics, yields great reliability and gives confidence which could be placed in the findings and the results of the data analysis.
4. The coverage of the literature review regarding VTE since the mid 1950s enabled the researcher to comprehend the developments and outcomes in order to improve the current study.
5. Attempts have been made by the researcher to review the different kinds of methodologies pertinent to the research (e.g. historical research, descriptive

research, phenomenological research etc.), bearing in mind their weaknesses and strengths, enabling the researcher to generate the most valid methodology for the study (i.e. descriptive). This review enriched the researcher's background about the mix of methodologies so that the selection of methodology was sound.

Weaknesses

1. The bureaucratic and centralised system led to the lack of ability on the part of the researcher to acquire some data and documents in regard to VTE in Qatar.
2. The researcher did not conduct formal interviews with officials and decision makers and also with private sector authorities and students who drop out from VTE institutions. That might have yielded useful information. This could have given the study more strength, more details, more depth and, in some areas, more explanatory potential.
3. The study was quantitative and large scale rather than qualitative and in depth; it lack very specific detail. Rather it was concerned with an overall picture.

7.6 Recommendations for Future Vocational and Technical Education Research Needed

More research surveys should be carried out in order to increase awareness and improve analysis of specific problems so that a solution may be found to the promotion of vocational and technical education and manual work, and to overcome negative attitudes presented by Qatari society, covering, for example:

1. **The reasons behind the high drop out rate of vocational and technical education institutions and the best method for reducing it.**

The number of students who drop out of VTE institutions is very high, which causes great concern for the human resource planner. The reasons behind the drop out rate should be investigated and identified, and an attempt to find a solution to reduce or stop the rate of drop out. Further research could use additional methodologies and instruments, for example;

1. Interviews with teachers, trainers, and counsellors.
2. Questionnaires for students who drop out and for VTE staff.
3. Reviews of literatures about VTE in the Gulf Corporation Counsel.

2. A study could be undertaken to measure the attitudes of fathers and sons towards vocational and technical education.

Fathers, as representatives of Qatari society, holding power and control over the family, influence any decisions on the future of all family members. This study would investigate whether students and their fathers are aware of the meaning and importance of VTE and manual occupations (Kissnawi, 1982, p. 4). This could utilise quantitative and qualitative descriptive research thus:

1. Interview with fathers and students
2. Questionnaires for fathers and their sons.

3. A study to analyse the strengths and weaknesses of the organisation, policy and planning of human resources in Qatar.

This study would seek to develop effective policy and planning implementation for VTE which will help to prevent the creation of a class of welfare-dependent Qataris while fulfilling the requirements for Qatari human resources needed for industrialisation. Comprehensive study of the policy, planning and organisation of vocational and technical education programmes is needed to identify strengths and weaknesses within these programmes (Al-Habbeb, 1988, p. 5). This could utilise qualitative methodology and grounded theory research thus:

1. Interviews with policy makers and planners in the top authority.
2. Interviews with the business sector.

Conclusion

The shortages in the skilled labour force in general and VTE students in particular are the largest problems facing the development of the society and economy in the state of Qatar because highly skilled manpower is the most essential requirement for development and can create independence in the national labour force. After the country's infrastructures are completed there is a need to diversify the economy. A

number of reasons have been suggested for the problems effecting VTE development; the researcher suggested nine research questions for investigation:

1. To what extent have the low standards from vocational and technical education come about as a result of poor facilities and low standards of teaching?

   The present study showed that there is a great need for improvement in VTE facilities, equipment and staff expertise to be able to meet the required standard. The researcher made a number of recommendations to solve this problem.

2. To what extent do graduates of VTE choose not to work in their field because of availability of jobs in the public sector?

   The study showed that there is a need for the possibility of introducing disincentives to office jobs. The researcher suggested that VTE graduates should receive higher salaries and be treated in employment prospects equally with those who graduate from general academic colleges; this might help VTE graduates not to look for a job in the public sector.

3. To what extent do VTE institutions suffer from a large number of dropouts because of the relatively easy access to public sector jobs for the small indigenous population?

   The study showed that a high percentage of responses agreed that there are many student dropouts who joined public sector jobs, especially from the Industrial secondary school; the researcher recommended that the school staff should follow up those students and find out the reason behind the dropout and try to reduce it.

4. To what extent do Qatari students try to avoid VTE because of its low status by dint of its manual nature?

   Most students showed positive attitudes towards vocational occupations and were willing to join VTE institutions, but VTE staff agreed that Qatari students tried to avoid this kind of education because of its low status by dint of its manual nature. The researcher suggested that this problem could be solved through mass media to improve the image of VTE and manual work.

5. To what extent is the low participation of women in VTE due to traditions which prohibit women from performing such jobs?

   The study revealed the need for equal opportunities to extend to women within an appropriate cultural and religious framework.

6. To what extent is the low enrolment of this type of education due to the lack of information about VTE programmes through mass media?

   Most students obtained their information about VTE programmes either from their parents or friends; the researcher suggested that the Ministry of Information, in co-operation with the Ministry of Education, should establish programmes on TV to attract more children and youth to show how VTE can help people to maintain their equipment in the home or in shops and gardens, also mass media can show the importance of VTE in the newspapers and magazines through articles from known people in the Qatari society.

7. To what extent is the low enrolment to VTE institutions due to the lack of counselling and guidance in the preparatory and secondary schools?

   The present research showed that there needs to be careers guidance and responsible vocational choice about careers. It is recommended that special programmes should be offered by the University of Qatar which are related to VTE such as VTE counselling.

8. To what extent is the low standard of teaching and training due to the lack of staff qualifications and experience and knowledge about programmes offered by VTE institutions?

   It is recommended that there should be arrangements for effective compulsory training courses for VTE staff, as it was shown in this study that large percentages of trainers and administrators had no work experience in the industrial or economic backgrounds.

9. To what extent do Qatari teachers and trainers try to avoid working in VTE due to the lack of interest in this sector of education by dint of low financial incentives and low status?

   The study showed that there are high percentages of Qatari teachers and trainers who try to avoid working in VTE; the researcher recommended that the government should give equal status to vocational staff, general education staff and desk work.

In conclusion, careful planning and effective administration and day by day close evaluation of VTE programmes should make a great contribution to the attainment of key economic and social goals for the state of Qatar.

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Appendix A

The Main Industries in the State of Qatar

1. Refining: the National Oil Distribution Company (NODCO) was established in 1986 for refining crude oil and distributing its by-products through the various outlets. It was established with a Paid-up Capital of QR 40 million (Industry in the GCC Countries, 1986, pp. 121-122).

2. The Qatar Fertilizer Company (QAFCO) chemical fertiliser exports occupy second place in importance after oil. Among the leading importing countries of these chemicals are: India, Italy, Mauritania and Morocco. These countries import mainly ammonia, while India is also importing large quantities of urea, along with China and Malaysia. The chemical fertiliser industry is one of the very successful industries of Qatar but due to lack of coordination between the Gulf states, similar industries exist in all the Gulf states, thus creating competition in marketing (Nafi, 1983, p. 55).

3. Liquid Gas: The Natural Gas Liquid (NGL) plant was set up in 1974 as a joint venture between the Government of Qatar with 70 per cent of capital and the Shell Group with 30 per cent of capital. The total capital is QR 400 million. The whole project is now totally owned by the Qatar General Petroleum Corporation (QGPC) with effect from 1/12/1976. However, the Shell Group continued to provide technical help and consultancy services. This project is designed to extract high density gases from the oil fields. Production started at the end of 1980 with a daily capacity of 740 tonnes of Natural Benzene besides a capacity to produce 2.3 metric tonnes of rich Ethane gas per day. It can also produce 4 metric tonnes of rich Methane gas per day (ibid, p. 58).

4. Petrochemicals: the Qatar Petrochemical Company (QAPCO) is the main petrochemical plant in Qatar and the first one to be established in the Arabian Gulf. It was commissioned on 2nd September, 1974. The main task of QAPCO

was to establish a plant for Ethylene and Polyethylene materials. Production of these started in 1981. This industry is one of the core industries of Qatar. The Qatar Petrochemicals Ltd. was established as a joint venture between the Government of Qatar and two French concerns, namely C.D.F. CHIMIE and Gas Ocean. The Qatari government has eighty per cent of the capital in this venture (ibid, p. 54).

5. Iron and Steel: The Qatar Iron and Steel Company (QASCO) was established in 1974 with a capital of QR 200 million which was increased to QR 300 million in 1980. It was started as a joint venture between the Government of Qatar with seventy per cent of capital, Kobe Steel Co., and Tokyo Yukin Co. of Japan, with twenty per cent and ten per cent of capital respectively. One agreement was signed with Kobe Steel Co., in order to supervise the plant installation and to provide administrative and technical expertise; another agreement was signed with Tokyo Yukin for marketing the products in the world market. From early 1989 the Qatar Government took over the full operation of the plant with all its subsidiaries. The total cost of establishment of the plant was QR 1100 million. Production started in 1978 with the manufacture of 113 thousand tons in 1980, moving to 483 thousand tons in 1987. It has a workforce of 1172 persons of whom 1000 are technical and unskilled labourers. The main markets for the products are the Kingdom of Saudi Arabia, the United Arab Emirates, Kuwait, Bahrain and the Sultanate of Oman (Gulf Organisation for Industrial Consultancy, 1986, p. 320).

6. Cement: The Qatar National Cement Co. was established as a limited shareholding company with private sector participation. It was floated with a capital of QR 35 million for the manufacturing of ordinary Portland Sulphurous Salt resistant Cement. Production began in 1969 and in view of the huge demand for Cement in the domestic market, the plant was expanded in the years 1974 and 1976. The total production capacity has increased to more than 330

thousand tons per year. It has three furnaces and the total number of people employed in it were 403 (Administrative and Technical Staff) (Gulf Organisation for Industrial Consultancy, 1989, p. 83).

7. Flour Mills: The Qatar Flour Mill was established in 1969 as a Qatari Company to meet the local daily requirements of flour. Initially, it had a production capacity of 100 tonnes of wheat flour in 1972 and the production gradually increased to the present level of 22000 tonnes per annum. It was established with a capital of QR 12 million (Al-Noor, 1986, p. 8).

Appendix B

Morrison (1993) suggests that

> just as the choice of methods is not arbitrary so the choice of methodology is not arbitrary. The methodology must be appropriate to the purpose and foci of the evaluation (p.34).

He continued:

> Imagine a continuum. At one end of the continuum are numbers, statistics, objective facts and quantitative data; at the other end are transcripts of conversations, interview comments, subjective accounts, essentially words, which we could call qualitative data.
>
> Imagine another continuum. At one end are closed questions where respondents have to select from a given, predetermined range of responses that response which most accurately represents what they wish to have recorded for them. At the other end of the continuum are much more open-ended questions which do not require the selection from a given range of responses - respondents can answer the questions in their own way and in their own words, i.e. the evaluation is made responsive to their particular frames of response.
>
> Imagine a third continuum. At one end is a desire to measure responses, to compare one set of responses with another, to correlate responses, to see how many people did or said this, how many scored such and such on a test. At the other end of the continuum is a desire to capture the uniqueness of a particular situation, person or programme - what makes it similar to and different from others, i.e. to record the quality of a situation, the value systems operating in the situation.
>
> Imagine a fourth continuum. At one end is a desire for formality and the precision of numbers and prescribed categories of response where we already know in advance what it is we are looking at. At the other is a more responsive, informal intent where what we are looking for is far less pre-determined, we only know what we are looking for when we have found it! we have to go into a situation and respond to what we find the important issues to be rather than know in advance what the important issues are.
>
> Imagine a fifth continuum. At one end we are trying to find regularities - say of behaviour, of scores, of opinions - in order to begin to make generalisations from our results, to describe what is happening. At the other end we are trying to portray uniqueness, the quality of a particular situation, the complexity of a situation - for example, where we are trying to understand why individuals behave in certain ways (which may all differ from each other), i.e. to reflect the complexity of a situation as revealed through the eyes of participants rather than through the pre-ordained categories of the outside evaluator. Here we are striving to explain rather than to describe (Morrison, 1993, pp. 34-35).

It can be seen that one pole describes closed numerical, generalizable regularities, whilst another pole describes open verbal, unique instances. This describes the areas of quantitative and qualitative approaches.

Appendix C

Dear brother and sister,

Peace, blessings and mercy of Allah be upon you.

The enclosed questionnaire is part of my treatise for the degree of Ph.D. about Technical and Vocational Education (mechanical, commercial, nursing, hygiene monitoring "inspection") in Qattar, and I need information expressing your opinions and suggestions to complete the research.

Sincerity wise answers will dealt with as confidential, and will not be made use of except for research purposes, therefore, I appreciate your co-operation and effort in answering every question objectively and truthfully.

AHMAD M. AL-MARZOOKI

Questionnaire No.

UNIVERSITY OF DURHAM

SCHOOL OF EDUCATION

UNITED KINGDOM

Questionnaire about Vocational and Technical Education in the State of Qatar

Presented by Ahmed Mohd Al Marzooki

School of Education

University of Qatar

(1992)

STUDENT QUESTIONNAIRE

NAME: ----------

Q1. Basic information:

A. Age:

1. Age 12 ( )
2. Age 13 ( )
3. Age 14 ( )
4. Age 15 ( )
5. Age 16 ( )
6. Age 17 ( )
7. Age 18 ( )
8. Age 19 ( )
9. Age 20 and over ( )

B. Gender:

1. Male ( )
2. Female ( )

3. Nationality:

4. Qatari ( )
5. G. C. C. Countries ( )
6. Other ( )

D. Institution in which you are currently studying: (tick only one)

1. Industrial School ( )
2. Regional Training Centre ( )
3. Commercial School ( )
4. Qatar General Petroleum Corporation ( )
5. Nursing Institution ( )
6. Technological College ( )

K. Father's Qualifications:

1. Illiterate ( )
2. Can read and write ( )
3. Preparatory School certificate ( )
4. Elementary School certificate ( )
5. Secondary School certificate ( )
6. Diploma certificate ( )
7. B.A. certificate ( )
8. M.A. or Ph.D certificate ( )

F. Father's Occupation: (please specify)

G. Family's Income:

1. 2000 - 2999 Riyal ( )
2. 3000 - 3999 Riyal ( )
3. 4000 - 4999 Riyal ( )
4. 5000 - 5999 Riyal ( )
5. 6000 - 6999 Riyal ( )
6. 7000 - 7999 Riyal ( )
7. 8000 - 8999 Riyal ( )
8. 9000 - 9999 Riyal ( )
9. 10000 - 10999 Riyal ( )
10. 11000 - 11999 Riyal ( )
11. 12000 - 12999 Riyal ( )
12. 13000 - 13999 Riyal ( )
13. 14000 and over ( )

H. What is your current specialisation: (tick only one)

I. How did you know about Vocational and Technical Education:

1. Through the media ( )
2. Through School counsellor ( )
3. Through friends ( )
4. Through parents ( )
5. Other (please specify)

Q2. Joining VTE:

		not at all	very little	a little	a lot	a very great deal
v1.	To what extent did you discuss the matter of joining Vocational and Technical Education with your father?					
v2.	To what extent did your father resent your joining Vocational and Technical Education?					

	not at all	very little	a little	a lot	a very great deal
v3. To what extent did you have counselling at your previous school?					
v4. If you answer is very little to very great deal to what extent did you discuss the matter of your wish to join Vocational and Technical Education?					
v5. To what extent did you really wish to join Vocational and Technical Education?					

I. If your answer is very little to very great deal could you please mention the reasons:

J. If your answer is not at all could you please mention the reasons:

Q3. To what extent is your current speciality attributed to:

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
v1. Personal interest					
v2. The over-demand in some fields.					
v3. Government demands for certain specialisations.					
v4. Hesitancy in making a choice.					

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
v5. Because you followed specified criteria that record your abilities.					
v6. Because your parents want you to select this specialisation.					

Q4. Have you ever failed at one section of your study: (tick only one)

- I have never failed ( )
- I have only failed once ( )
- I have failed more than once ( )

Q5. To what extent does your wish to join Vocational and Technical Education have anything to do with the following reasons:

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
v1. The need for money.					
v2. Because the general academic subjects in school are difficult.					
v3. Because Vocational and Technical Education is more enjoyable.					
v4. A desire to reduce the dependance on foreign workers.					
v5. Availability of jobs after graduation.					
v6. To join a friend already in such an institution.					
v7. Because you failed in general academic school.					

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
v8. In order to have a part-time job.					
v9. Because a counsellor advised you.					
v10. Because you will gain the respect of others.					
v11. Because it enables you to gain practical experience for future employment.					

Q6. What is the best method, in your view, to gain knowledge in Vocational and Technical Education institutions:

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
v1. Studying through formal classroom work.					
v2. Learn through workshops and laboratories.					
v3. Familiarisation programme to factories and production sectors.					
v4. Use of institute -school library.					
v5. Through home work.					
v6. Through projects.					

Q7. **To what extent to you believe you intend to work in the future in your current specialisation?**	not at all	very little	a little	a lot	a very great deal

Q8. **If your answer is not at all could you please mention the reasons:**

Q9. **The Cognition of Vocational and Technical Education. Please read the following and tick the number which shows your agreement or disagreement. Please note that there is neither a right nor wrong in the following classifications:**

		strongly agree	agree	uncertain	disagree	strongly disagree
v1.	Objectives of Vocational and Technical Education are clear enough to students.					
v2.	The teacher or trainer embarks on clarifying the objectives of the course to all students.					
v3.	The teacher or trainer follows up the general introduction to the objective.					
v4.	The government encourages students to join Vocational and Technical Education.					
v5.	Availability of counselling services at every school assisting students to recognise working fields in the future.					
v6.	I receive vocational guidelines from the vocational counsellor at my institute now.					
v7.	Practical training at the institute is of the highest standards.					
v8.	The institute building in which I study serves its purpose very well.					

		strongly agree	agree	uncertain	disagree	strongly disagree
v9.	The tools and machines used in the institute serve the purpose of educational expectations.					
v10.	The standard of general education in the institute serves the required purpose.					
v11.	Both teachers and trainers are of the best standards.					
v12.	Both management and organisation are very progressive.					
v13.	Industrial education for Qataries is extremely vital at this stage of booming industrial development in Qatar.					
v14.	Vocational and Technical Education plays a key role in resolving the lack of Qatari technical skilled labour.					
v15.	Vocational and Technical Education enjoys less prestige than academic schools.					
v16.	There is a lack of respect for Vocational and Technical Education institutions.					
v17.	Vocational and Technical Education Institutions are not important in the first place.					
v18.	Vocational and Technical Education institutions are very important for a modern State.					
v19.	Serving the country through joining Vocational and Technical Education is a great honour for me.					

		strongly agree	agree	uncertain	disagree	strongly disagree
v20.	Programmes designed for Vocational and Technical Education are of a high standard and so only suitable for intelligent students.					
v21.	Because of the high standard it is only suitable for highly intelligent students.					
v22.	Programmes of Vocational and Technical Education are suitable for less intelligent people.					
v23.	Despite all the odds surrounding Vocational and Technical Education, I am interested in studying it.					
v24.	The State needs Qatari graduates with Vocational and Technical Education but the present numbers fail to meet the country's demands.					
v25.	I am not interested in Vocational and Technical Education simply because I do not like manual work.					
v26.	Qualifications given to graduates of Vocational and Technical Education do not qualify them for higher education in the future.					

Q10. The role of women in the field of VTE:

		strongly agree	agree	uncertain	disagree	strongly disagree
v1.	Enabling women to participate in VTE may help increase work force.					
v2.	Women are naturally incapable of performing such jobs.					

		strongly agree	agree	uncertain	disagree	strongly disagree
v3.	Men are naturally incapable of performing such jobs.					
v4.	Women must stay at home and look after children.					
v5.	Men must stay at home and look after children.					
v6.	Mixing women with men in unacceptable hence women should not participate.					
v7.	Allocation of places for women only may help women's participation.					
v8.	Traditions prohibit women from performing such jobs.					
v9.	Traditions prohibit men from performing such jobs.					
v10.	Women are not allowed to work in certain areas by religion.					
v11.	Women's participation may help increase the financial resources of the family.					
v12.	The participation of women may help reduce their dependence on foreign workers.					

Q11. A. Is there anything you would like to add:

B. What, in your view, is the best method to improve, or rather change, Society's view of Vocational and Technical Education:

جامعة درهم
كلية التربية
المملكة المتحدة

رقـم الاسـتبيان

استبيان
عن واقع التعليم الفني والمهني
في دولة قطر

" مسح وتقييم التعليم المهني والفني
في مؤسسات التعليم الفني والمهني "

إعداد / أحمد محمد احمد المرزوقي
مدرس مساعد كلية التربية
جامعة قطر

(١٩٩٢م)

بسم الله الرحمن الرحيم

الأخ العزيز ـ الأخت العزيزة

السلام عليكم ورحمة الله وبركاته ، وبعد ... ؛

هـذا الاسـتـقـصـاء المرفق هو جزء من بحـثي لرسـالة الدكتوراه عن التـعليم الفني والمهني (صـناعي ـ تجاري ـ تمريض ـ تفتيش صـحي) بقطر وإني احتاج الى معلومات تعبر عن آرائك وأقتراحاتك لتكملة موضوع الرسالة .

علماً بأن اجابتك ستكون موضع الأمانة وعدم الاستفادة منها لغير أغراض البحث فالرجاء تعاونك في الاجابة على كل الأسئلة بموضوعية وصدق .

وشكراً مع كل تقدير لتعاونك وجهودك ؛؛؛؛

أحمد محمد المرزوقي

استبيان الطلاب

الاســم : .....

١) معلومات اساسية

أ) العمر :

١) ١٢ عاماً ( )
٢) ١٣ عاماً ( )
٣) ١٤ عاماً ( )
٤) ١٥ عاماً ( )
٥) ١٦ عاماً ( )
٦) ١٧ عاماً ( )
٧) ١٨ عاماً ( )
٨) ١٩ عاماً ( )
٩) ٢٠ عاماً فأكثر ( )

ب) الجنس :

١) ذكر ( )
٢) أنثى ( )

جـ) الجنسية :

١) قطري ( )
٢) من مواطني مجلس التعاون ( )
٣) جنسيات اخرى .....

(١)

د) المؤسسة التعليمية التي تدرس فيها حالياً (أجابة واحدة فقط)

١) مدرسة الصناعة ( )
٢) مركز التدريب الاقليمي (غزة) ( )
٣) مدرسة التجارة ( )
٤) مركز تدريب المؤسسة القطرية العامة للبترول ( )
٥) معهد التمريض ( )

٦) الكلية التكنولوجية (جامعة قطر) ( )

هـ) مؤهلات الوالد :

١) أمي ( )
٢) يقرأ ويكتب ( )
٣) الشهادة الابتدائية ( )
٤) الشهادة الاعدادية ( )
٥) الشهادة الثانوية ( )
٦) شهادة الدبلوم ( )
٧) شهادة البكالوريوس ( )
٨) شهادة الماجستير أو الدكتوراه ( )

و) وظيفة الوالد ومهنته (يرجى التحديد)

.....

حـ) دخل الاسرة :

١) ٢٠٠٠ ـ ٢٩٩٩ ( )
٢) ٣٠٠٠ ـ ٣٩٩٩ ( )
٣) ٤٠٠٠ ـ ٤٩٩٩ ( )
٤) ٥٠٠٠ ـ ٥٩٩٩ ( )
٥) ٦٠٠٠ ـ ٦٩٩٩ ( )

(٢)

٦) ٧٠٠٠ ـ ٧٩٩٩ ( )
٧) ٨٠٠٠ ـ ٨٩٩٩ ( )
٨) ٩٠٠٠ ـ ٩٩٩٩ ( )
٩) ١٠٠٠٠ ـ ١٠٩٩٩ ( )
١٠) ١١٠٠٠ ـ ١١٩٩٩ ( )
١١) ١٢٠٠٠ ـ ١٢٩٩٩ ( )
١٢) ١٣٠٠٠ فأكثر ( )

ز) ماهو تخصصك الحالي (اجابة واحدة فقط)

١) حاسب آلى ( )
٢) محاسبة ( )
٣) ادارة مكاتب ( )
٤) كيمياء ( )
٥) هندسة مدنية (إنشاءات) ( )
٦) هندسة مدنية (طرق وأشغال) ( )
٧) هندسة مدنية (مساحة) ( )
٨) تجارة ( )
٩) تمريض ( )
١٠ تفتيش صحي ( )
١١) ميكانيكى ( )
١٢) كهربائي ( )
١٣) آلات دقيقة ( )
١٤) فني تشغيل ( )
١٥) لحام ( )
١٦) نجارة وديكور ( )
١٧) خراطه ( )
١٨) قسم توليد الطاقة ( )
١٩) قسم الراديو والتلفزيون ( )
٢٠) قسم الرسم المعماري ( )
٢١) قسم التكييف والتبريد ( )

٢٢) قسم التسوية الآلية اليدوية ( )

أخرى تذكر : .....

ط) كيف تعرفت على التعليم الفني والمهني عندما تخرجت من الاعدادية :

١) من خلال وسائل الاعلام ( )

٢) من خلال الموجهين والمشرفين فى المدارس ( )

٣) من خلال الاصدقاء ( )

٤) عن طريق الوالدين ( )

٥) بطرق أخرى (يرجى تحديدها) .....

٢)

	لايوجد	قليلاً جداً	قليلاً	كثيراً	كثيراً جداً
أ)					
ب)					
جـ)					
د)					

أ) الى اي مدى ناقشت موضوع التحاقك بالتعليم المهني والفني مع والدك .

ب) ما مدى معارضة والدك من التحاقك بالتعليم المهني والفني .

جـ) مامدى تواجد توجيه وارشاد في مدرستك السابقة (الاعدادية).

د) اذا كانت اجابتك هي قليلاً جداً الى كثير جداً فإلى اي مدى ناقشت موضوع رغبتك في الالتحاق بالتعليم الفني والمهني من القائمين على الارشاد .

(٤)

	لايوجد	قليلاً جداً	قليلاً	كثيراً	كثيراً جداً
هـ) ما مدى رغبتك في الالتحاق بالتعليم الفني والمهني ٠					

و) اذا كانت لديك الرغبة فى الالتحاق بالتعليم المهنى والفنى يرجى ذكر الاسباب :

.....

.....

.....

ز) اذا لم يكن لديك رغبة فى هذا النوع من التعليم يرجى ذكر الاسباب :

.....

.....

.....

٣) حدد العوامل التي أثرت في اختيارك لتخصصك الحالي :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) رغبة شخصية					
ب) لعدم وجود فرصة في التخصصات الاخرى لكثرة عدد الطلاب ٠					
جـ) لحاجة الدولة الى هذا التخصص٠					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
د) المسؤلون في المركز اختاروا هذا التخصص لك لأنك لا تستطيع الاختيار					
هـ) لأنك اتبعت معايير معينة وضعها المركز لتحديد مقدرتك.					
و) لأن العائلة تريد منك اختيار هذا التخصص .					

٤) هل سبق أن رسبت في اي مرحلة من دراستك (اجابة واحدة فقط) .

أ) لم ارسب في دراستي . ( )

ب) رسبت مرة واحدة فقط . ( )

جـ) رسبت اكثر من مرة . ( )

٥) الى اي مدى كان لرغبتك في الالتحاق بالتعليم المهني والفني علاقة بالاسباب التالية :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) الحافز المادي .					
ب) صعوبة المنهج في المدارس الثانوية الاكاديميه .					

(٦)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
جـ) لأن التعليم المهني والفني اكثر متعة.					
د) الرغبة في التقليل من الاعتماد على العمالة الاجنبية.					
هـ) لتوفر فرص العمل بعد التخرج .					
و) لوجود اصدقاء يدرسون في هذا المعهد .					
ز) لفشلك في التعليم الاكاديمي العام.					
حـ) لغرض الحصول على وظيفة نصف دوام (Part-time)					
ط) بسبب نصيحة الموجه والمرشد التربوي .					
ك) لأنك ستنال احترام الآخرين.					
ل) لأنه سيتيح لك فرصة التدريب العملي والخبرة مما يساعد في العمل مستقبلاً .					

(٧)

٦) من وجهة نظرك ماهى افضل الطرق للحصول على الخبرة فى معاهد التعليم المهنى والفنى:

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) من خلال الدراسة النظامية في الفصول .					
ب) التعليم من خلال الورش والمعامل.					
جـ) البرامج التعريفية في المصانع والقطاعات الانتاجية .					
د) استخدام مكتبة المعهد .					
هـ) من خلال الواجبات المنزلية					
و) من خلال المشروعات .					

	لايوجد	قليلاً جداً	قليلاً	كثيراً	كثيراً جداً
٧) الى اي مدى تؤمن بأنك ستعمل في المستقبل في تخصصك الحالي .					

(٨)

٨) اذا كانت أجابتك لايوجد يرجى ذكر الاسباب :

.....

.....

.....

٩) المعرفة بالتعليم الفني والمهني ، يرجى قراءة مايلي ومن ثم ضع علامة موضحاً موافقتك أو عدم موافقتك • يرجى العلم انه لايوجد صواب أو خطأ في التصنيفات التالية :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) أهداف التعليم الفني والمهني واضحة بما فيه الكفاية للطلاب •					
ب) المعلم أو المدرب يعمل على توضيح اهداف برنامج التدريب لكل الطلاب•					
ت) المعلم أو المدرب يتابع المقدمة العامة للأهداف •					
ث) تشجع الدولة الطلاب للالتحاق بالتعليم المهني والفني •					
ج) تواجد الموجهين والمرشدين في كل المدارس يساعد الطلاب علي معرفة مجالات العمل في المستقبل •					

(٩)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
حـ) اتلقى ارشاد في التعليم المهني من الموجه المهني في المعهد الذي ادرس فيه حالياً .					
خـ) التدريب العملي في المعهد من أعلى المستويات .					
د) مباني المعهد الذي ادرس فيه تفي بإغراضها بصورة جيدة .					
ذ) المعدات والماكينات المستخدمة في المعهد تخدم الاغراض التعليمية.					
ر) مستوى التعليم العام في المعهد يخدم الغرض المطلوب .					
ز) المعلمين والمدربين على مستوى جيد .					
س) الادارة والتنظيم متطوران جداً .					

(١٠)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
ش) التعليم الصناعي هام جداً للقطريين في هذه المرحلة من مراحل التنمية الصناعية في قطر .					
ص) التعليم المهني والفني يلعب دوراً هاماً في حل مشكلة قلة العمالة القطرية الفنية الماهرة .					
ض) يتمتع التعليم المهني والفني بمزايا اقل من التعليم الثانوي الاكاديمي .					
ط) لايوجد احترام لمعاهد التعليم المهني والفني .					
ظ) معاهد التعليم المهني والفني ليست مهمة بالدرجة الأولى .					
ع) معاهد التعليم المهني والفني مهمة جداً للدول الحديثة والمتقدمه .					
غ) خدمة الوطن من خلال الالتحاق بالتعليم المهني والفني شرف كبير لي .					

(١١)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
ف) البرامج التي تطبق في التعليم المهني والفني ذات مستوى عالي . لذا فهى تلائم الطلاب الاذكياء فقط .					
ق) بسبب المستوى العالي فإنها تناسب الطلاب الاذكياء جداً فقط .					
ك) برامج التعليم المهني والفني تناسب الاشخاص الأقل ذكاء .					
ي) رغم السلبيات التي تحيط بالتعليم المهني والفني فإنا راغب في دراسته .					
م) تحتاج الدولة الى خريجي من التعليم المهني والفني لكن الاعداد الحالية لاتفي باحتياجات البلاد .					
ن) أنا لا أرغب في التعليم المهني والفني لأنني لا أحب العمل اليدوي .					

(١٢)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
هـ) المؤهلات التي تمنح لخريجي التعليم المهني والفني لا توهلهم للدراسات العليا مستقبلاً .					

١٠) دور المرأة في حقل التعليم المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) تمكين المرأة من المشاركة في التعليم المهني والفني قد يساعد في زيادة قوة العمل .					
ب) طبيعة المرأة لاتمكنها من اداء مثل هذه الوظائف .					
جـ) طبيعة الرجل لا تمكنه من اداء مثل هذه الوظائف .					
د) على المرأة البقاء في المنزل لرعاية الاطفال .					
هـ) على الرجل البقاء في المنزل لرعاية الاطفال .					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
و) بما أن الاختلاط بين الرجل والمرأة غير مقبول لذا يجب عدم مشاركة المرأة					
ز) تخصيص اماكن للنساء فقط قد يساعد في مشاركة المرأة .					
حـ) التقاليد تمنع المرأة من اداء مثل هذه الوظائف .					
ط) التقاليد تمنع الرجال من اداء مثل هذه الوظائف .					
ق) تمنع النساء من العمل في بعض المجالات لاسباب دينية .					
ك) مشاركة المرأة قد يساعد في زيادة موارد الاسرة المالية.					
م) مشاركة المرأة قد تساعد في تقليل الاعتماد على العمالة الاجنبية .					

١١) من وجهة نظرك ماهى احسن السبل لاصلاح أو تغيير نظرة المجتمع الى التعليم المهنى والفنى :

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(١٥)

Appendix D

Dear brother and sister,

Peace, blessings and mercy of Allah be upon you.

The enclosed questionnaire is part of my treatise for the degree of Ph.D. about Technical and Vocational Education (mechanical, commercial, nursing, hygiene monitoring "inspection") in Qattar, and I need information expressing your opinions and suggestions to complete the research.

Sincerity wise answers will dealt with as confidential, and will not be made use of except for research purposes, therefore, I appreciate your co-operation and effort in answering every question objectively and truthfully.

AHMAD M. AL-MARZOOKI

Questionnaire No.

UNIVERSITY OF DURHAM

SCHOOL OF EDUCATION

UNITED KINGDOM

Questionnaire about Vocational and Technical Education in the State of Qatar

Presented by Ahmed Mohd Al Marzooki

School of Education

University of Qatar

(1992)

Please tick in the appropriate place, only one for each question unless it states that you can tick more than one.

NAME: ----------

Q1. Basic information:

A. Age:

1. Age 20 - 29 ( )
2. Age 30 - 39 ( )
3. Age 40 - 49 ( )
4. Age 50 - 59 ( )
5. Age 60 and over ( )

B. Gender:

1. Male ( )
2. Female ( )

C. Nationality:

1. Qatari ( )
2. G. C. C. Countries ( )
3. Palestinian ( )
4. Egyptian ( )
5. Sudanese ( )
6. Jordanian ( )
7. Syrian ( )
8. Tunisian ( )
9. Lebanese ( )
10. Other ----------

D. Qualifications (tick more than one if appropriate)

1. Secondary School Certificate ( )
2. Diploma Certificate ( )
3. B.A. Certificate ( )
4. M.A. Degree ( )
5. Ph.D. Certificate ( )

E. Number of Training Courses Attended

1. In-house courses ----------
2. Overseas courses ----------
3. Total courses ----------

F. Specialisation in which you are working now (tick only one)

1. Administrator ( )
2. Technical Trainer ( )
3. Teacher ( )

G. Years of Administrating (tick only one)
For Administrator only

1. 1 - 5 ( )
2. 6 - 10 ( )
3. 11 - 15 ( )
4. 16 - 20 ( )
5. 21 - 25 ( )
6. 26 - 30 ( )
7. 31 - 35 ( )
8. 36 and over ( )

H. Years of Technical Training (tick only one)
For Technical Trainer only

1. 1 - 5 ( )
2. 6 - 10 ( )
3. 11 - 15 ( )
4. 16 - 20 ( )
5. 21 - 25 ( )
6. 26 - 30 ( )
7. 31 - 35 ( )
8. 36 and over ( )

I. Years of Teaching (tick only one)
For Teacher only

1. 1 - 5 ( )
2. 6 - 10 ( )
3. 11 - 15 ( )
4. 16 - 20 ( )
5. 21 - 25 ( )
6. 26 - 30 ( )
7. 31 - 35 ( )
8. 36 and over ( )

J. Age Group currently taught (tick more than one if appropriate)

1. Age 15 ( )
2. Age 16 ( )
3. Age 17 ( )
4. Age 18 ( )
5. Age 19 ( )
6. Age 20 and over ( )

K. Institution in which you are currently working (tick only one)

1. Industrial School ( )
2. Regional Training Centre ( )
3. Commercial School ( )
4. Qatar General Petroleum Corporation Training Centre ( )
5. Nursing Institution ( )
6. Health Inspection Institution ( )
7. Technological College ( )

L. Have you ever worked in a factory of any business corporation before joining VTE Institutions?

Yes ( )
No ( )

If year, for how long did you work?

1. 1 - 5 years ( )
2. 6 - 10 years ( )
3. 11 - 15 years ( )
4. More than 15 years ( )

M. How well do you feel that you know about the programmes offered by VTE Institutions? (tick only one)

1. Very well known ( )
2. Well known ( )
3. Somewhat known ( )
4. Not known ( )

Q2. The place of technical and vocational education in the education system of the state of Qatar.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	VTE is given high status in the educational system in the state of Qatar.					
v2.	VTE is important for human resources (e.g. skill) development.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v3.	Officials who are responsible for VTE are aware of the role of VTE for the development of human resources.					
v4.	VTE has been recently introduced to the education system in Qatar.					
v5.	VTE has as much prestige as general academic education in Qatar.					
v6.	VTE is more desirable than other academic education.					
v7.	VTE is necessary to develop society of Qatar.					

Q3. There are many ways in which the development of VTE can be assisted.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Adopting the most advanced methods like interaction between education and world of work.					
v2.	There is a need for all VTE institutions to be administrated by one single authority which is not the Ministry of Education or any other Ministry.					
v3.	Allocating enough financial resources to develop the VTE.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v4.	Preparing programmes and educational advice to the students to join VTE post school.					
v5.	Encouraging the integration and strengthening the relationship between VTE and general education.					
v6.	Developing VTE plans, linking with the job market demand.					
v7.	The suggestions of those working in VTE must be considered seriously.					
v8.	Incorporating the VTE schemes in elementary education (up to age group 15).					
v9.	There is a need to diversify the fields of specialisation in VTE.					
v10.	Promoting the importance of VTE.					
v11.	Opening more Institutions for VTE.					
v12.	Parents should contribute with their ideas and comments in preparing the vocational and technical training programmes.					

Q4. Several criteria should be followed in selecting the teachers and trainers in VTE.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	The applicant to VTE should have practical experience in the field.					
v2.	The applicant to VTE should have teaching experience in the field.					
v3.	The applicant to VTE should have administration experience in the field.					
v4.	Must have a degree, not necessarily in the appropriate subject.					
v5.	If the post is vacant it should be filled disregarding qualifications.					
v6.	The teaching performance of the teacher or trainer should be taken into consideration.					
v7.	The applicant should pass several tests for his abilities.					

Q5. Certain criteria should be followed to prepare the teachers of technical and vocational training.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Having a number of compulsory training courses.					
v2.	Increasing incentives.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v3.	Preparing monthly reports on the teachers and trainers.					
v4.	Preparing half year reports.					
v5.	Preparing annual reports.					
v6.	Dismissing less qualified teachers after appropriate warning.					
v7.	Things must be left as they are.					
v8.	Analysing and clarifying the role of teacher and trainer.					
v9.	Testing the knowledge of teachers and trainers from time to time.					
v10.	Testing the teachers and trainers ability from time to time.					
v11.	Sending teachers and trainers abroad to acquire the most recent techniques in VTE.					

Q6. Which of the following criteria should be used in selecting the teachers or trainers to be sent abroad for training courses.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Must be a citizen					
v2.	According to needs of specialisation.					
v3.	Having an excellent record of work.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v4.	To be chosen by officials on the committees of VTE.					
v5.	When the trainer or teacher feels the need.					

Q7. Vocational and technical education suffer from a shortage in Qatari teachers and trainers due to several reasons.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	The lack of interest in this sector of education.					
v2.	The lack of financial incentives.					
v3.	The low status of VTE.					
v4.	The slow promotion in this sector.					
v5.	Because the time which is spent in teaching and training is very long.					

Q8. The appropriate starting monthly salary, given the effort made by a teacher or trainer in the field of VTE is:

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	5000 - 5999 Riyal					
v2.	6000 - 6999 Riyal					
v3.	7000 - 7999 Riyal					
v4.	8000 - 8999 Riyal					
v5.	9000 - 9999 Riyal					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v6.	10,000 - 10,999 Riyal					
v7.	Over 11,000 Riyal					

Q9. Why the buildings, workshops and laboratories of VTE are unable to fulfil their role.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Because the tools and machines used are obsolete.					
v2.	Because the workshops are not prepared and organised properly.					
v3.	The buildings are old and cannot accommodate any modernisation.					
v4.	There is no room for buildings to be extended.					
v5.	The lack of modern equipment such as computers and typewriters.					
v6.	The laboratories are not well equipped with scientific instruments.					

Q10. VTE programmes do not meet the demand of the job market due to:

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Over-emphasising the theoretical side.					
v2.	Over-emphasising the practical side.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v3.	The jobsmarket demands specialisations that are unavailable in those institutions.					
v4.	The VTE is not related to the countries economic needs.					
v5.	The VTE is not related to the individual needs.					
v6.	There is a lack of Government commitment to this kind of education.					
v7.	The absence of VTE institutions for females apart from unusing.					
v8.	Knowledge of teaching staff fails to keep up to date.					

Q11. There are several ways of developing teaching methods in VTE institutions.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Modern theories and methods should be applied in VTE.					
v2.	Using modern techniques and instruments such as computers and videos.					
v3.	A specialised technical textbook should be available in area of study.					
v4.	There should be a committee to decide this.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v5. Teachers and trainers must update their knowledge in the field.					
v6. Exchanging information with advanced institutions abroad.					
v7. Teachers and trainers should attend courses to enhance their abilities.					
v8. Students must have on-the-job training.					
v9. Familiarisation programme to factories and production sectors for students.					

Q12. To meet the demands of the job market, certain fields of specialisation must be emphasised.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. Hotel services.					
v2. Agriculture.					
v3. Construction.					
v4. Marketing.					
v5. Computer technicians.					
v6. Petroleum and gas-related operators.					
v7. Accounting and exchange.					
v8. Advertising.					
v9. Photography.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v10. Tailoring and design.					
v11. Leather industries.					
v12. Dockyards and fishing equipment.					

Q13. To get the optimal results, the initial education period for each subject above should be:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. Hotel Services.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v2. Agriculture.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v3. Construction.					
1. Two years.					
2. Three years.					
3. Four years.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
4. Five years.					
5. Six years.					
v4. Marketing.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v5. Computer Technicians.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v6. Petroleum and gas-related operators.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v7. Accounting and exchange.					
1. Two years.					
2. Three years.					
3. Four years.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
4. Five years.					
5. Six years.					
v8. Advertising.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v9. Photography.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v10. Tailoring and design.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					
v11. Leather industries.					
1. Two years.					
2. Three years.					
3. Four years.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
4. Five years.					
5. Six years.					
v12. Dockyards and fishing equipment.					
1. Two years.					
2. Three years.					
3. Four years.					
4. Five years.					
5. Six years.					

Q14. Other languages, in addition to Arabic, should be taught in VTE institutions.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. English					
v2. French					
v3. Japanese					

Q15. Many Qatari students join VTE due to:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. Their own interest.					
v2. The availability of incentives offered by the Government.					
v3. The difficulty of general education school subjects.					
v4. The availability of jobs after graduation.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v5. The desire to reduce the dependence on foreign workers.					
v6. The need for money					
v7. To join friends who are already in those institutions.					
v8. Because of students failure in general academic education.					
v9. In order to have a part-time job.					
v10. Advice from their counsellor.					

Q16. Which of the following statements is the most appropriate one for the students in VTE.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. Students can pass easily in VTE programmes.					
v2. In order to avoid the general education subjects.					
v3. He has no intellectual competition.					
v4. He prefers VTE to office jobs.					

Q17. Qatari students try to avoid VTE due to:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. The low standard of VTE programmes.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v2.	The lack of advisers to direct the youth in the different vocational and technical specialisations.					
v3.	The low status of VTE due to its manual nature.					
v4.	The embarrassment to wear an overall.					
v5.	The lack of financial incentives.					
v6.	The lack of considerable or attractive privileges.					

Q18. The media and inter-related agencies have an important role in attracting the youth to VTE through:

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Direct contact.					
v2.	Radio and television.					
v3.	Journals and newspapers.					
v4.	Brochures and publications.					
v5.	Giving lectures and seminars in schools and clubs.					
v6.	Organising visits by students to VTE institutions.					

Q19. VTE institutions suffer from a large number of drop-outs due to:

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	The lack of incentives.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v2.	The low status given to this sort of education.					
v3.	The difficulty of the programmes.					
v4.	Lack of good rates of pay after graduation.					
v5.	Slow rate of promotion after graduation.					
v6.	The relatively easy access to public sector jobs due to the small indigenous population.					
v7.	Facility and standard of teaching failed to encourage students to continue their study.					

Q20. Students who most frequently have joined VTE are:

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Very intelligent.					
v2.	Average.					
v3.	Less intelligent.					
v4.	Any of these.					

Q21. Graduates to VTE do not work in their field due to:

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Low salaries.					
v2.	Its low status.					
v3.	The availability of other jobs in the public sector.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v4. The belief that these jobs should be done by foreigners.					
v5. The slow promotion in these jobs.					

Q22. Some reasons exist for the officials in VTE institutions to direct students into various specialisations:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. The over demand in some fields.					
v2. The government demands certain specialisations.					
v3. Students are hesitant to make a choice.					
v4. Specified criteria that record the abilities of the applicants.					

Q23. There are public and government sectors that do not offer any on-the-job training for the students of VTE due to:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. The lack of co-operation between the job market and VTE institutions.					
v2. The lack of full-time trainers to operate at the on-the-job training sites.					
v3. The fact that these programmes are not part of the policies of those sectors.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v4. Lack of policies to Qatarise the jobs in those sectors.					

Q24. There is an important role to be played by the representatives of the different sectors of production and services in the committee of VTE in order to develop the work force. This role could be:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. Retraining by intensifying courses for the low qualified employees.					
v2. Organising programmes for on-the-job training.					
v3. Training employees for their future jobs which call (Individual development programme).					
v4. Directing the new employee to his future position.					
v5. Updating the knowledge of employees.					
v6. Meeting skilled manpower shortage problems in different sectors.					
v7. Developing industrialisation in Qatar.					

Q25. Certain methods should be implemented to direct the national caders in the field of VTE.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1. Stressing the importance of these jobs.					

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v2.	Raising the wages and incentives of employees.					
v3.	Rapid promotion for employees.					
v4.	Increasing the role of women.					
v5.	Reducing the number of foreign workers.					

Q26. The role of women in the field of VTE.

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v1.	Enabling women to participate in VTE may help increase workforce.					
v2.	Women are naturally incapable of performing such jobs.					
v3.	Men are naturally incapable of performing such jobs.					
v4.	Women must stay at home and look after children.					
v5.	Men must stay at home and look after children.					
v6.	Mixing women with men is unacceptable, hence women should not participate.					
v7.	Allocation places for women only may help women participation.					
v8.	Traditions prohibit women from performing such jobs.					
v9.	Traditions prohibit men from performing such jobs.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
v10. Women are not allowed to work in certain areas by religion.					
v11. Women's participation may help increase the financial resources of the family.					
v12. The participation of women may help reduce the dependence on foreign workers.					

Q27. Why do you think there is a shortage of enrolement of students in VTE?

Q28. What, in your view, is the best method to improve, or rather change, society's view of VTE?

جامعة درهم
كلية التربية
المملكة المتحدة

رقـم الاسـتبيان

استبيان
عن واقع التعليم الفني والمهني
في دولة قطر

" مسح وتقييم التعليم المهني والفني
في مؤسسات التعليم الفني والمهني "

إعداد / أحمد محمد احمد المرزوقي
مدرس مساعد كلية التربية
جامعة قطر

(١٩٩٢م)

يرجى اختيار إجابة واحدة فقط لكل سؤال وذلك بوضع علامة (✓) في المكان المخصص أمام الاجابة التي تختارها . يمكنك اختيار اكثر من إجابة اذا طلب منك ذلك :

الأسم : .....

١) المعلومات الاساسية :

أ) العمر :

١)	٢٠ ـ ٢٩	( )
٢)	٣٠ ـ ٣٩	( )
٣)	٤٠ ـ ٤٩	( )
٤)	٥٠ ـ ٥٩	( )
٥)	٦٠ فأكثر	( )

ب) الجنس :

١)	ذكر	( )
٢)	أنثى	( )

جـ) الجنسية :

١)	قطري	( )
٢)	مواطني مجلس التعاون	( )
٣)	فلسطيني	( )
٤)	مصري	( )
٥)	سوداني	( )
٦)	أردني	( )

(١)

٧) سوري ( )
٨) تونسي ( )
٩) لبناني ( )
١٠) جنسيات اخرى اذكرها .....

د) المؤهلات : (آخر شهادة حصلت عليها) .
١) الشهادة الثانوية ( )
٢) شـهادة دبلوم ( )
٣) شـهادة بكالوريوس ( )
٤) شـهادة الماجستير ( )
٥) الدكتوراة ( )

هـ) عدد الدورات التدريبية التي نلتها :
١) دورات محلية : .....
٢) دورات في الخارج : .....
٣) مجموع الدورات التدريبية : .....

و) التخصص الذي تعمل فيه حالياً (إختيار إجابة واحدة فقط) :
١) اداري ( )
٢) مدرب فني ( )
٣) معلم ( )

ز) سنوات الخبرة في مجال الادارة (اجابة واحدة فقط) :
(للإداريين فقط)
١) ١ ـ ٥ ( )
٢) ٦ ـ ١٠ ( )
٣) ١١ ـ ١٥ ( )

٤) ١٦ ـ ٢٠ ( )
٥) ٢١ ـ ٢٥ ( )
٦) ٢٦ ـ ٣٠ ( )
٧) ٣١ ـ ٣٥ ( )
٨) ٣٦ فاكثر ( )

حـ) سنوات الخبرة في التدريب الفني (اختار اجابة واحدة فقط) :
(للمدربين الفنيين فقط)

١) ١ ـ ٥ ( )
٢) ٦ ـ ١٠ ( )
٣) ١١ ـ ١٥ ( )
٤) ١٦ ـ ٢٠ ( )
٥) ٢١ ـ ٢٥ ( )
٦) ٢٦ ـ ٣٠ ( )
٧) ٣١ ـ ٣٥ ( )
٨) ٣٦ فاكثر ( )

ط) سنوات الخبرة في مجال التدريس (اجابة واحدة فقط) :
(للمعلمين فقط)

١) ١ ـ ٥ ( )
٢) ٦ ـ ١٠ ( )
٣) ١١ ـ ١٥ ( )
٤) ١٦ ـ ٢٠ ( )
٥) ٢١ ـ ٢٥ ( )
٦) ٢٦ ـ ٣٠ ( )

٧) ٣١ ـ ٣٥ ( )

٨) ٣٦ فأكثر ( )

ق) مجموعة الاعمار التي تدرسها حالياً (أكثر من مجموعة اذا رغبت) :

١) عمر ١٥ سنة ( )

٢) عمر ١٦ سنة ( )

٣) عمر ١٧ سنة ( )

٤) عمر ١٨ سنة ( )

٥) عمر ١٩ سنة ( )

٦) عمر ٢٠ فأكثر ( )

ك) المؤسسة التي تعمل فيها حالياً (اختار اجابة واحدة فقط)

١) مدرسة الصناعة ( )

٢) مركز التدريب الأقليمي (غزه) ( )

٣) مدرسة التجارة ( )

٤) مركز تدريب المؤسسة القطرية للبترول ( )

٥) معهد التمريض ( )

٦) الكلية التكنولوجية ( )

م) هل سبق أن عملت في مصنع أو مؤسسة تجارية قبل التحاقك بمؤسسات التدريب المهني والفني :

- نعم ( )

- لا ( )

(٤)

إذا كانت الإجابة نعم فكم عدد سنوات عملك بها :

١) ١ ـ ٥ سنة ( )

٢) ٦ ـ ١٠ سنة ( )

٣) ١١ ـ ١٥ سنة ( )

٤) أكثر من ١٥ سنة ( )

ن) ما مدى معرفتك بالبرامج التي تقدمها مؤسسات التعليم المهني والفني (اختار اجابة واحدة) :

١) معرفة ممتازة ( )

٢) معرفة جيدة ( )

٣) معرفة بسيطة ( )

٤) معرفة لا تذكر ( )

٢) مكانة التعليم الفني والمهني من نظام التعليم في دولة قطر .

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) التعليم المهني والفني له مكانة عالية في نظام التعليم في قطر					
ب) التعليم المهني والفني هام لتنمية الموارد البشرية .					
جـ) المسؤلون عن التعليم المهني والفني يدركون أهمية دور التعليم المهني والفني في تنمية الموارد البشرية					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
د) ادخل التعليم المهني والفني حديثاً في نظام التعليم في دولة قطر .					
هـ) التعليم المهني والفني مزايا عديدة مثل التعليم الاكاديمي العام في دولة قطر					
و) التعليم المهني والفني مرغوب اكثر من التعليم الاكاديمي .					
ز) التعليم المهني والفني ضروري لتطوير المجتمع القطري .					

٣) هناك عدة طرق يمكن من خلالها المساعدة في تطوير التعليم المهني والفني .

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) تبني احدث الطرق مثل التفاعل بين التعليم وبيئة العمل .					
ب) هناك توجه بأن تدار كل مؤسسات التعليم المهني بواسطة سلطة واحدة لاتكون وزارة التربية والتعليم أو أي وزارة أخرى .					

(٦)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
٢ جـ) رصد موارد مالية كافية لتطوير التعليم المهني والفني .					
٤ د) إعداد برامج وارشادات تعليمية للطلاب للالتحاق بالتعليم المهني بعد الدراسة .					
٥ وَ) تشجيع التكامل بين التعليم المهني والفني والتعليم العام وتقوية العلاقة بينهما .					
٦ ز) تطوير خطط التعليم المهني وربطها مع احتياجات سوق العمل .					
٧ حـ) اقتراحات العاملين في حقل التعليم المهني والفني يجب أن تؤخذ في الاعتبار .					
٨ طـ) ادخال برامج التعليم المهني والفني في التعليم الابتدائي والاعدادي (حتى عمر ١٥ سنة) .					

(٧)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
ق) هناك توجه لتنويع حقول التخصص في مجال التعليم المهني والفني					
ل) يجب التوعية بأهمية التعليم المهني والفني					
م) فتح المزيد من معاهد التعليم المهني والفني					
ن) أن يشارك الآباء بأفكارهم وتعليقاتهم في إعداد برامج التدريب المهني والفني .					

٤) هناك معايير يجب اتباعها عند اختيار المعلمين والمدربين في مجال التعليم المهني والفني.

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) المتقدم للتعليم المهني والفني يجب أن تكون له خبرة عملية في هذا المجال .					
ب) يجب أن تكون للمتقدم خبرة في التدريس في مجال التعليم المهني والفني.					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
جـ) يجب أن تكون للمتقدم خبرة ادارية في مجال التعليم المهني والفني.					
د) أن تكون له درجة علمية ليست بالضرورة في مجال تخصص المادة .					
هـ) اذا كانت الوظيفة شاغرة يجب ملؤها بغض النظر عن المؤهلات .					
و) الاداء التدريسي للمعلم أو المدرب يجب أن يؤخذ في الاعتبار .					
ز) يجب أن يخضع المتقدم لعدة اختبارات لتحديد كفاءته وقدراته .					

(٩)

٥) عدة معايير يجب إتباعها في إعداد المعلمين في مجال التعليم الفني والمهني ٠

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) أن تكون هناك دورات تدريبية اجبارية للمعلمين ٠					
ب) زيادة الحوافز والمكافآت ٠					
جـ) إعداد تقارير شهرية عن اداء المعلمين والمدربين ٠					
د) إعداد تقارير نصف سنوية عن اداء المعلمين ٠					
هـ) إعداد تقارير سنوية عن اداء المعلمين ٠					
و) فصل المعلمين غير المؤهلين بعد توجيه الانذار لهم ٠					
ز) يجب ترك الامور كما هي عليه ٠					
حـ) تحليل وتوضيح دور المعلم والمدرب ٠					

(١٠)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
ط) اختبار معرفة وادراك المعلمين والمدربين من وقت لآخر .					
ق) اختبار كفاءة ومقدرة المعلمين والمدربين من وقت لآخر .					
ك) ابتعاث المعلمين والمدربين للخارج للحصول على احدث تقنيات التعليم المهني					

٦) اي المعايير التالية يجب استخدامها في اختيار المعلمين والمدربين لابتعاثهم للخارج في دورات تدريبية :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) أن يكون مواطنا قطرياً .					
ب) حسب احتياجات التخصص .					
جـ) له سجل عملي ممتاز .					
د) يختار بواسطة المسئولين في لجان التعليم المهني .					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
هـ) عندما يشعر المعلم أو المدرب بالحاجة للتدريب .					

٧) يعاني التعليم الفني والمهني من نقص في المعلمين والمدربين القطريين نتيجة لعدة اسباب :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) عدم الرغبة في هذا النوع من التعليم .					
ب) عدم وجود الحافز المادي .					
جـ) انخفاض الوضع الوظيفي في التعليم الفني والمهني.					
د) بطء الترقي في التعليم الفني والمهني					
هـ) طول الفترة الزمنية في التدريس والتدريب .					

٨) بداية الراتب الشهري المجزي الذي يتناسب مع المجهود الذي يبذله المعلم أو المدرب في مجال التعليم المهني والفني:

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) ٥٠٠٠ ـ ٥٩٩٩ ريال قطري ·					
ب) ٦٠٠٠ ـ ٦٩٩٩ ريال قطري ·					
جـ) ٧٠٠٠ ـ ٧٩٩٩ ريال قطري ·					
د) ٨٠٠٠ ـ ٨٩٩٩ ريال قطري ·					
هـ) ٩٠٠٠ ـ ٩٩٩٩ ريال قطري ·					
و) ٩٩٩٩ ـ ١٠٫٩٩٩ ريال قطري ·					
ز) أكثر من ١١٫٠٠٠ ريال قطري ·					

٩) لماذا تعجز مباني وورش ومعامل التعليم المهني والفني عن القيام بدورها ؟

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) لقدم المعدات والماكينات .					
ب) لأن الورش غير مجهزة وغير منظمة بصورة مثالية .					
جـ) لأن المباني قديمة ولا تتحمل اي تحديث .					
د) لا توجد مساحة لتوسيع المباني الحالية					
هـ) عدم وجود المعدات الحديثة مثل الحاسبات والالات الطابعة.					
و) المعامل غير مزودة بالمعدات العلمية .					

(١٤)

١٠) برامج التعليم المهني والفني لا تلبي حاجة الوظائف المطلوبة في سوق العمل :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) لأنها تركز على الجانب النظري .					
ب) لأنها تركز على الجانب العملي .					
جـ) لأن سوق العمل لتخصصات غير متوفرة في هذه المعاهد .					
د) لأن التعليم المهني والفني غير مرتبط بالاحتياجات الاقتصادية للدولة .					
هـ) لأن التعليم المهني والفني غير مرتبط باحتياجات الافراد .					
و) لأنه لايوجد التزام حكومي تجاه هذا النوع من التعليم .					
ز) غياب معاهد التعليم الفني للنساء .					

(١٥)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
حـ) قصور المعلمين في مواكبة الجديد في تخصصهم والالمام بها .					

١١) هناك عدة طرق لتطوير وسائل التدريس في معاهد التعليم المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) تطبيق النظريات والطرق الحديثة في التعليم المهني والفني					
ب) استخدام التقنيات والاجهزة الحديثة مثل الحاسبات واجهزة الفيديو .					
جـ) توفير المراجع المتخصصة في الدراسة .					
د) يجب أن تكون هناك لجنة لإختيار المراجع المطلوبة .					
هـ) على المعلمين والمدربين مواكبة ما يستجد في مجال التعليم الفني والمهني.					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
و) تبادل المعلومات مع المعاهد المتقدمة في الخارج .					
ز) على المعلمين والمدربين الالتحاق بدورات تدريبية لتنمية قدراتهم .					
حـ) تدريس الطلاب عن طريق تدريبهم في المصانع اثناء دراستهم .					
ط) إعداد برامج تعليمية لتعريف الطلاب بالمصانع وقطاعات الانتاج .					

١٢) لمقابلة متطلبات سوق العمل الوظيفي يجب التركيز على بعض حقول التخصص :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) الخدمات الفندقية .					
ب) الزراعة .					
جـ) البناءوالتشييد .					
د) التسويق .					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
هـ) فني الكومبيوتر .					
و) مشغلي الغاز والبترول .					
ز) المحاسبة .					
حـ) الاعلان .					
ط) التصوير .					
ق) الخياطة والتصميم .					
ك) الصناعات الجلدية .					
م) معدات صيد الاسماك وصناعة السفن .					

ن) أخرى تذكر : .....

١٣) للحصول على أحسن النتائج فإن الفترة الدراسية لكل تخصص يجب أن تكون:

أ) الخدمات الفندقية

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
١) سنتان .					
٢) ثلاث سنوات .					
٣) أربعة سنوات .					
٤) خمسة سنوات .					
٥) ستة سنوات .					

ب) الزراعة

أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة

١) سنتان .
٢) ثلاث سنوات.
٣) أربعة سنوات.
٤) خمسة سنوات.
٥) ستة سنوات .

جـ) البناء والتشييد

أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة

١) سنتان .
٢) ثلاث سنوات.
٣) أربعة سنوات.
٤) خمسة سنوات.
٥) ستة سنوات .

د) التسويق

أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة

١) سنتان .
٢) ثلاث سنوات.
٣) أربعة سنوات.
٤) خمسة سنوات.
٥) ستة سنوات .

(١٩)

هـ) فني الكومبيوتر

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

و) مشغلي البترول والغاز

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

ز) المحاسبة

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

حـ) الاعلان

	أوافـق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشـدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

ط) التصوير

	أوافـق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشـدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

ق) الخياطة والتصميم

	أوافـق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشـدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

(٢١)

ك) الصناعات الجلدية

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

م) معدات صيد الاسماك وصيانة السفن

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
١) سنتان .					
٢) ثلاث سنوات.					
٣) أربعة سنوات.					
٤) خمسة سنوات.					
٥) ستة سنوات .					

١٤) يجب أن تدرس لغات اخرى بالاضافة للغة العربية في معهد التدريب المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) أنجليزي					
ب) فرنسي					
جـ) يابانية					

١٥) كثير من القطريين يلتحق بالتعليم المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) رغبتهم الشخصية					
ب) لوجود الحوافز التي تمنحها الدولة .					
جـ) لصعوبة الدراسة في التعليم العام .					
د) لتوفر الوظائف بعد تخرجهم .					
هـ) الرغبة في تقليل الاعتماد على العمالة الاجنبية .					
و) الحاجة للمال .					
ز) اللحاق باصدقائهم الذين يدرسون بهذه المعاهد .					
حـ) لفشل الطلاب في التعليم الأكاديمي العام .					
طـ) بغرض الحصول على وظيفة نصف دوام					
ق) بسبب نصيحة من المشرف .					

(٢٣)

١٦) اي من الحالات التالية اكثر ملاءمة للطلاب في معاهد التعليم المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) يستطيع الطلاب النجاح بسهولة في برامج التعليم المهني.					
ب) في سبيل تفادي مواد التعليم الاكاديمي العام .					
جـ) لتجنب المنافسه الفكرية .					
د) لتفضيله العمل المهني والفني على الوظائف المكتبية .					

١٧) يحاول الطلاب القطريون تفادي التعليم المهني والفني لـ :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) لإنخفاض مستوى برامج التعليم المهني والفني .					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
ب) لغياب المرشدين الذين يوجهون الطلاب نحو التخصصات الفنية والمهنية المختلفة .					
جـ) انخفاض المستوي الأدبي والوظيفي للتعليم المهني والفني لطبيعته اليدوية .					
د) الحرج من ارتداء ملابس العمل (overall)					
هـ) عدم وجود الحافز المادي .					
ز) عدم وجود المزايا المغرية الاخري .					

١٨) جذب الشباب نحو التعليم المهني والفني من خلال :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) الاتصال المباشر					
ب) الراديو والتلفزيون					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
جـ) الدوريات والمجلات والصحف .					
د) النشرات والمطبوعات					
هـ) تقديم المحاضرات والسمنارات في المدارس والاندية					
و) تنظيم الزيارات الطلابية لمعاهد التعليم المهني والفني					

١٩) تعاني معاهد التعليم المهني والفني من مشكلة الاعداد الهائلة من الطلاب الذين يتركون الدراسة نتيجة لـ :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) عدم وجود الحوافز					
ب) انخفاض المستوى الادبي والوظيفي لهذا النوع من التعليم					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
جـ) صعوبة البرامج التعليمية في التعليم المهني والفني					
د) ضعف الرواتب والاجور بعد التخرج					
هـ) بطء الترقي					
و) السهولة النسبية في الحصول على وظائف القطاع العام نسبة لقلة السكان المواطنين					
ز) مستوى المعلمين فشل في تشجيع الطلاب على مواصلة دراستهم					

٢٠) الطلاب الذين غالباً مايلتحقون بالتعليم المهني والفني يكونون :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) شديدي الذكاء					
ب) متوسطي الذكاء					
جـ) قليلي الذكاء					
د) كل مما ذكر					

٢١) خريجو التعليم المهني والفني لا يعملون في مجال تخصصهم بسبب :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) قلة الرواتب					
ب) انخفاض الوضع الادبي والوظيفي					
جـ) توفر فرص العمل الاخرى من القطاع العام					
د) لايمانهم بأن هذه الوظائف يجب أن يقوم بها الاجانب					
هـ) لبطء الترقي في هذه الوظائف					

٢٢) هناك عدة اسباب تجعل المسئولين في معاهد التعليم المهني الفني يوجهون الطلاب الى العديد من التخصصات :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) زيادة الطلب على بعض التخصصات.					
ب) لحاجة الدولة بعض التخصصات					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
جـ) عدم قدرة الطلاب في الاختيار					
د) هناك معايير محددة تقرر قدرات الطلاب المتقدمين .					

٢٣) هناك العديد من القطاعات الحكومية والعامة لاتعطي فرص التدريب العملي فيها لطلاب التعليم المهني والفني بسبب :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) عدم وجود التعاون بين سوق العمل ومعاهد التعليم المهني الفني					
ب) عدم وجود المدربين المتفرغين للاشراف على التدريب في مواقع العمل .					
جـ) حقيقة أن فرص التدريب العملي ليست جزء من سياسات هذه القطاعات الحكومية.					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
د) عدم وجود سياسات لتقطير هذه الوظائف في هذه القطاعات الحكومية .					

٢٤) يلعب ممثلي القطاعات الانتاجية والخدمية الممثلين في لجنة التعليم المهني والفني دوراً هاماً في تطوير قوة العمل . هذا الدور الهام يمكن أن يكون :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) أعادة التدريب عن طريق دورات تدريبية مكثفة للعاملين غير المؤهلين .					
ب) إعداد برامج للتدريب اثناء الوظيفة					
جـ) تدريب العاملين من أجل وظائفهم المستقبلية وهذا مايسمى (برنامج تطوير الفرد) .					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
د) توجيه العاملين الجدد نحو وظائفهم المستقبلية .					
هـ) تشجيع العاملين مواكبة الجديد في مجال التعليم المهني والفني .					
و) مقابلة النقص في العمالة المدربة في مختلف القطاعات .					
ز) تنمية وتطوير عملية التصنيع في دولة قطر .					

٢٥) هناك عدة طرق يمكن أن تنفذ لتوجيه الكوادر الوطنية نحو حقل التعليم المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) التأكيد على أهمية هذه الوظائف					
ب) زيادة الرواتب والحوافز للعاملين					
جـ) الترقي السريع للعاملين					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
د) زيادة دور المرأة					
هـ) تقليص عدد العمالة الاجنبية					

٢٦) دور المرأة في حقل التعليم المهني والفني :

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
أ) تمكين المرأة من المشاركة في التعليم المهني والفني يساعد في زيادة قوة العمل.					
ب) طبيعة المرأة تجعلها غير قادرة على اداء مثل هذه الوظائف .					
جـ) طبيعة الرجال تجعلهم غير قادرين على اداء مثل هذه الوظائف					
د) يجب على النساء البقاء في المنزل ورعاية الاطفال					

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
هـ) يجب على الرجال البقاء في المنزل ورعاية الاطفال					
و) الاختلاط بين الرجال والنساء غير مقبول لذا على المرأة عدم المشاركة					
ز) تخصيص اماكن للنساء فقط قد يساعد في مشاركة المرأة					
حـ) التقاليد تمنع المرأة من اداء مثل هذه الوظائف					
ط) التقاليد تمنع الرجل من اداء مثل هذه الوظائف					
ق) تمنع النساء من العمل في بعض الاماكن لاسباب دينية					

(٣٣)

	أوافق بشدة	أوافق	غير محدد	لا أوافق	لا أوافق بشدة
ل) مشاركة المرأة قد تساعد في زيادة موارد الاسرة المالية					
م) مشاركة المرأة قد تساعد في تقليل الاعتماد على العمالة الاجنبية .					

٢٧) لماذا تعتقد أن هناك نقصاً في التحاق الطلاب بالتعليم المهني والفني ؟

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٢٨) ماذا تقترح لتشجيع المدربين والمعلمين من القطرين للالتحاق بالتعليم المهني والفني ؟

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Appendix E

بسم الله الرحمن الرحيم

مكتب الأمين العام

جامعة تعز

جامعة تعز
رقم الصادر : ١٩٨٥/١٨/١
الرقم :
التاريخ : / /
التاريخ : ١٤١١/٣/٢٥ هـ
الموافق : ١٩٩٠/١٠/١٤ م

وارد مكتب الوكيل
٢٢٢٥
١٩٩٠/١٠/١٥

المحترم سعادة الاستاذ/ وكيل وزارة التربية والتعليم
وزارة التربية والتعليم

تحية طيبة .. وبعد ،،،

يرجى التكرم بتسهيل مأمورية المدرس المساعد/ احمد محمد المرزوقي عضو بعثة الدراسات العليا للحصول على درجة الدكتوراه في المجال التربوي بجامعة درهم - المملكة المتحدة بالاطلاع على التقارير والدراسات والوثائق التي تمت في مجال التعليم التقني لدى وزارتكم الموقرة للاستفادة والاطلاع .

نشكر لسعادتكم حسن تعاونكم .

وتقبلوا وافر التحية ،،،

أمين عام الجامعة

(د.عبدالرحمن حسن الابراهيم)

بناء على موافقة سعادة الوزير
وسعادة الوكيل يرجى تسهيل
مهمة الباحث احمد المرزوقي
وشكراً

١١
١٠/٤

ان شاء الله
لا اعتراض
لعمل
المرزوقي

١٩/١١/٩٠

Appendix F

Interview Schedule
Informal Interview with a Number
of
Vocational and Technical Education
Staff and Students

Mr. ABDUL-QADIR ABU NAB'A head of Qattar General Petroleum Corporation (Training Centre).

Question 1:

What is the relationship between the theoretical classes and on-the-job-training (OJT) in the operational failed for the trainees?

Answer

No doubt that we, in the centre, combine between theoretical and practical classes; this is done through contacting some factories and companies belonging to the corporation (Q.G.P.C.) where trainees spend some time for training inside the factory and watch closely how work does on in the operation scene. This is a kind of raising the awareness and co-ordination with these companies which gives the trainee a sufficient idea about all operation fields and introduces him to manufacturing stages. This, no doubt, helps the trainee get orientated to work surroundings in the future.

Mr. OMAR SAEED AL-SILEITI head of the secondary technical school.

Question 2:

Could you please brief us on the Industrial Secondary School, and the status of VTE?

Answer

No doubt that demand on vocational and technical education has increased in the last few years, but the number "of students" is not enough to cover the country's need of workforce. As for the technical schools they suffer from a shortage of some modern machinery; some machines are outdated, they are very old and can not do what is supposed of them. Rewards are also not worthwhile, the trainers are not highly

qualified for technical training which was proved by some previous studies on the Industrial School, as well as the building itself is old.

I suggest that there should be a plan for training, especially the trainers, teachers and staff and sending them for training courses. There should also be a special department for training and professional development and administrative staff and technicians to supervise that department.

Mr. ABDULLAH JA'FAR head of the Commercial Secondary School.

Question 3:

What is the reason behind the indisposition to Vocational and Technical Education?

Answer

Indisposition towards such a kind of training (education) is due to the fact that the degree which the students obtains does not entitle them to university education in the future, for instance, the university stipulates that very few commercial school graduates are admitted and within specific conditions. The unavailability of high tech. machinery like computers and banking machinery is another reason as well.

Mr. MOHAMMED KHALIL HALAWA a trainer in (Q. G. P. C. T. C.).

Question 4:

How can we develop such a kind of education?

Answer

Developing such a kind of education can be done through combining between technical/professional education programmes and development plans in the country, therefore, senior officials (in the country) should give great importance to curricula and educational systems, and (carefully) calculate the needs of the country and the local job market. So not combining technical/professional training and education programmes with development plans; this kind of education will, no doubt, decline towards negativity in the educational process, thus it is difficult to get qualified graduates to meet the country's needs of workforce.

Student KHALID HUSSEIN ABU SHA'R a graduate of the commercial secondary school.

Question 5:

How can we change the society's attitude towards vocational and technical education?

Answer

1- The degrees which the graduates obtain must be recognized, and graduates must be assigned to suitable posts.

2- University should accommodate most of the graduates to pursue their higher studies.

3- Educational programmes through mass media about the importance of technical and professional education in developing the country's economy.

4- Leaving channels open to technical and scientific development through moral and material encouragement.

Mr. JABR AL-NU'AIMI Assistant Head of Regonal Training Centre.

Question 6:

In your opinion how can we develop vocational and technical education?

Answer

1- Allocating a suitable budget.

2- Employing the most recent and advanced machinery (technology).

3- Sending trainers (coaches) for training courses.

4- Propaganda through all mass media.

Mr. ABDULLAH AL-KBEISI a graduate of the Industrial Secondery School, decoration and wood making.

Question 7:

Why did not you work within your field of speciality after graduation?

Answer

I work as a policeman (security field) for so many reasons:

1- The high income I get.

2- The high social rank.

3- Work opportunities are available for Qatari nationals regardless of qualification.

4- Society looks down upon vocational and manual work.

Mr. MUHARRAM M. KHALIL a teacher at the Industrial Secondary School.

Question 8:

Why do you think that there is an indisposition towards technical and professional education by Qatari students?

Answer

Many reasons among which:

1- The low social ranking of different manual (handicraft) works.

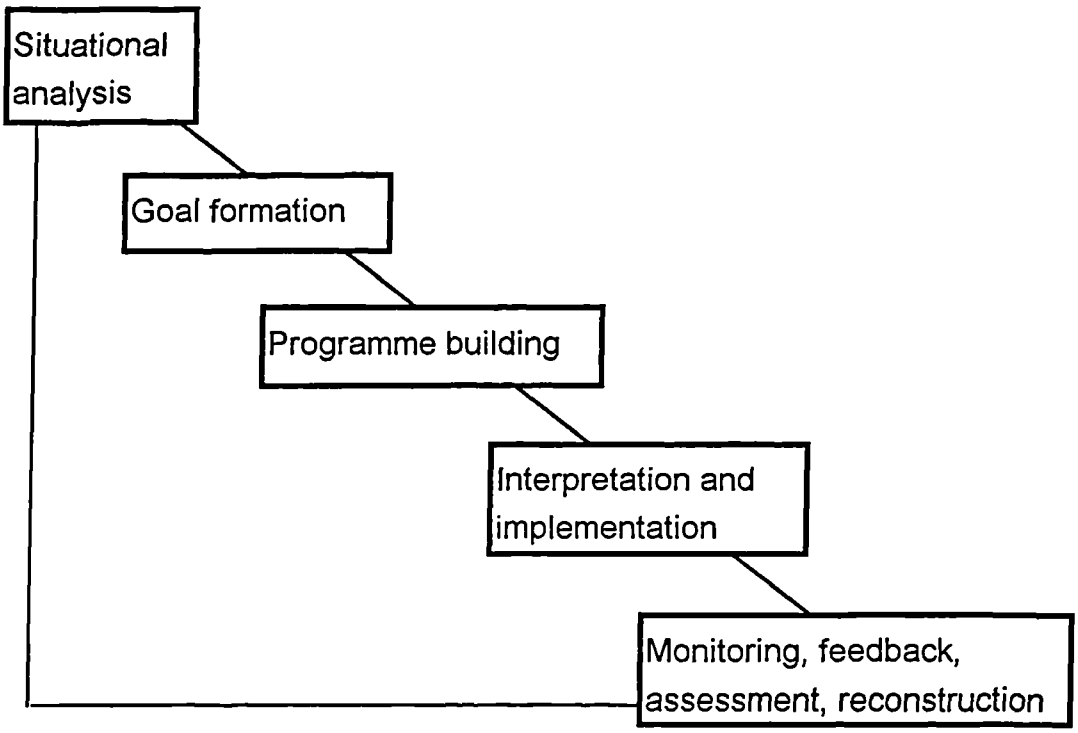
2- The easiness with which a Qatari national can get a job with whatever qualification he has: academic or intermediate technical or high.

3- The toughness and hard nature of vocational and manual work from the Qatari viewpoint.

4- Not enough educational programmes on official mass media.

Appendix G

Skilbeck's Curriculum Development Model.



Source: Morrison, K and Ridley, K; (1988), Curriculum Planning and the Primary School, Paul Chapman Publishing Ltd, (p.39).

Skilbeck (1975) give more explanation about his model as follows:

1. Situational analysis: analysis of factors which comprise:

a. external factors

"(i) cultural and social changes and expectations, including parental expectations employer requirements, community assumptions and values, changing relationships (e.g. between adults and children), and ideology;"

"(ii) educational-system requirements and challenges, e.g. policy statements, examinations, local-authority expectations or demands or pressures, curriculum projects, educational research;"

"(iii) the changing nature of the subject-matter to be taught;"

"(iv) the potential contribution of teacher-support systems, e.g. teacher training collages, research institutes, etc;"

"(v) flow of resources in to the school;"

b. internal factors

"(i) pupils: aptitudes, abilities and defined educational needs;"

"(ii) teachers; values, attitudes, skills, knowledge, experience, especial strengths and weakness, roles;"

"(iii) school ethos and political structure: common assumptions and expectations including traditions, power distribution, authority relationships, methods of achieving conformity to norms and dealing with deviance;"

"(iv) material resources, including plant, equipment, and potential for enhancing these;"

"(v) perceived and felt problems and short comings in the existing curriculum" (Skilbeck, 1975, p. 1).

2. Goal formation

The explanation of goals covers teacher and pupil actions, containing a statement of the kinds of learning results which are anticipated. Goals indicate and state preferences, values and judgements about the routes in which educational activities might go (ibid, p. 2).

3. Programme building

"a. design of teacher-learning activities: content, structure and method, scope, sequence;"

"b. means-materials, e.g. specification of kits, resource units, text materials, etc;"

"c. design of appropriate institutional settings, e.g. laboratories, field work workshops;"

"d. personal deployment and role definition, i.e. curriculum change as social change;"

"e. time-tables and provisioning" (ibid, p. 2).

4. Interpretation and implementation

This involves a plan of the curriculum change and how it will be operated in practice.

5. Monitoring, feedback, assessment, reconstruction

"a. design of monitoring and communication systems"

"b. preparation of assessment schedules"

"c. Problems of 'continuous' assessment"

"d. reconstruction ensuring continuity of the process" (ibid, p. 4).