

**A Study of Manpower Planning and Occupational Expectations of
Vocational Stream Students in Malaysia**

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Abstract

Although manpower and educational planning have been used in Malaysia for a considerable time to ensure an adequate supply of qualified manpower for the economy, the problem of skilled manpower shortages still persists. Estimated employment targets forecasted by planners to meet the economic needs of the country often clash with the needs and capabilities of vocational students who are seeking employment in the labour market. These students face the problem of occupational choices. Sometimes their occupational preferences tend to be far removed from the demand of the country's manpower needs, resulting in shortages and surpluses in certain occupational categories.

The upwardly distorted educational system, the narrow range of available careers, inadequate careers information and limited careers guidance have frequently been cited as reasons why vocational stream students manifest these unrealistic career ambitions. A study of vocational stream students' occupational expectations could generate a wide range of information for formulating appropriate policies for the development of the vocational education system and the labour market. Unfortunately, despite the usefulness of such information, there is a paucity of research in this area. In view of the above, the study was formulated to achieve the following objectives: 1) to concentrate on the extent to which students of vocational schools are aware of national manpower needs and how their occupational expectations relate to them; 2) to explore the extent to which factors other than manpower needs may affect students' occupational expectations; 3) to investigate the role played by careers guidance in the vocational school in helping students to make their occupational decisions; 4) to acquire an understanding of the role of the technical and vocational education planners in relation to the way manpower and educational planning has developed and operates.

To explore possible explanations for the persistence of manpower needs and students' occupational expectations, two kinds of data were used: sample surveys and interview data. A total of 420 Form V vocational stream students were surveyed. The interviews were conducted with three groups of key informants: 28 vocational stream students, 3 careers guidance and counselling teachers and 4 technical and vocational education planners. The analysis of the data confirms that: 1) a majority of vocational stream students were unaware of the country's skilled manpower requirements although there were efforts made by the schools to help them prepare for future occupations; 2) vocational stream students' occupational expectations were often not in accordance with the country's skilled manpower requirements.

Vocational students' occupational expectations were unrealistic. Students tend to place priority on their own individual needs rather than being influenced by the occupational structure of the country; 3) except for job security and parents, other factors that affected vocational stream students' choice of expected occupations were not dominant. However, students' occupational expectations were negatively related to their fathers' present occupations; 4) the vocational course specialisation was a significant determinant in selecting expected occupations of vocational stream students, however, these did not make them renounce other occupations; 5) male vocational stream students were more likely to exhibit extrinsic reasons for job expectations than were vocational stream female students who showed a marked preference for people-oriented aspects of occupational expectations; 6) the secondary vocational schools' careers guidance and counselling programmes were generally appreciated and thought to be helpful, there is very little evidence that they provided the source of careers information; 7) there are limitations in manpower and educational planning models, and there is a lack of some of the conditions required for their optimal functioning. The secondary vocational schools are not demand driven, their output has not matched actual industrial requirements.

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Abbreviations used

- CGAC Career Guidance and Counselling
- EPC Educational Planning Committee
- EPRD Educational Planning and Research Division
- EPU Economic Planning Unit
- GDP Gross Domestic Product
- GMI German-Malaysian Institute
- HRD Human Resource Development
- IMP Industrial Master Plan
- LCE Lower Certificate of Education
- LSA Lower Secondary Assessment
- MAMPU Malaysian Manpower Administration and Planning Unit
- MCE Malaysian Certificate of Education
- MCE(V) Malaysian Certificate of Education (Vocational)
- MIDA Malaysian Industrial Development Authority
- MFI Malaysian-France Institute
- MRA Manpower Requirement Approach
- MOE Ministry of Education
- NEP New Economy Policy
- NIC Newly Industrialised Country
- NVTC National Vocational Training Council
- OPP2 Second Outline Prospective Plan
- OECD Organisation for Economic Co-Operation and Development
- PGAP Peer Group Adviser
- PSAT Primary School Achievement Test
- PSD Public Service Department
- SVS Secondary Vocational School
- SES Socio-Economic Status
- TAVED Technical and Vocational Education Division

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CHAPTER ONE

BACKGROUND OF THE STUDY

1.1 Introductory Reflection

It is generally agreed that a person's occupation affects their way of life. Thus occupation may be a major source of identity. The kind of job a person does can have and often has, a profound influence on family life, on leisure and on political attitudes. Occupation is certainly crucial in that it gives that person status within society. The highly specialised division of labour, the high rates of social mobility that accompany rapid industrialisation, and the differential allocation of status, income and privileges have forced social scientists from different disciplines to examine entry into work from two main viewpoints: the individual making a choice, and the society planning its economy and recruiting the required manpower. In view of this fact, psychologists, sociologists, economists and educators have made joint or independent efforts to examine how the transition from school into work is affected.

It should have been expected though, that a certain amount of confusion would occur within the different formulations, because of the different nature of the various disciplines, each one employing its own concepts, instruments, terminology and fundamental principles. As a result, intensive research and speculation have not brought us much nearer to understanding how choice comes to be made when occupational choice is considered.

The significance of transition from school to work has become increasingly apparent, with implications for individuals, families,

institutions and the entire country. During this period, the individual is required to choose an occupation, to find and apply for jobs, to learn the norms and values of the new world of work, to learn the intricacies of a new job and to become successfully integrated into a new organisation. Student occupational expectations are in general, an important topic of study, because it is the school leavers who will constitute the future, and because school-leaving is an important point of transition at which the occupation to be pursued possibly throughout life, may be largely foreshadowed and determined. Influencing the performance of these tasks is a wide variety of social forces shaping the student's expectations, attitudes and experiences. Schools, parents, peers, the media and careers guidance teachers are among these forces, and an understanding of how these social agents and individuals interact, necessarily precedes informed attempts to ease the passage of the student into the new role of a working adult. However, my understanding of the way vocational school leavers make decisions about their future remains fragmented.

My initial interest in occupational choice came as a result of a long career as a vocational education teacher in Malaysia and my own enthusiasm and curiosity about the transition from vocational school to the world of work. At first I witnessed a transition change suddenly beginning to take place in the seemingly normal flow of students into vocational education. More students wanted to enrol in vocational education (Consultants' Report, 1992), more parents were prepared to spend, sometimes more than they could afford, in order to offer their children what they considered appropriate education. The number of applications to Secondary Vocational School (SVS) trebled from about 10,666 in 1980 to 33,070 in 1992 (TAVED, 1993). Increasing numbers of better qualified students have applied and been admitted into SVS. In 1992, students with A grades (from Lower Certificate of Education examination) accounted for 66 percent compared to less than 5

percent in 1978 for the same age cohort (TAVED, 1993; Techint, 1991). TAVED (1993), predicts that the number of students seeking vocational education will increase, not only due to the implementation of the government's plan to introduce eleven years of schooling for all students, but also due to more students realising that vocational education and training is more likely to prepare them for a job on completion of schooling. At that point it was mainly a matter of choosing a course of action that would eventually lead to a desired career. Then a new phenomenon appeared: people were not the only ones that made the choice, employers and educational institutions also made the choice. A competitive situation arose. In some professions unemployment started appearing and in some jobs the formerly required qualifications were no longer adequate.

In my experience, having worked in the area of careers guidance and counselling for several years, I have found that careers guidance systems in secondary vocational schools are generally ad hoc and sometimes virtually non-existent. Students do not generally have access to information about choices, minimal careers guidance is given and students are often unable to write letters or complete application forms let alone have the skills to decide career direction! But why is this? Who has the responsibility of careers guidance at present?

Interestingly, estimated employment targets forecasted by planners to meet the economic needs of the country often clash with the needs and capabilities of students who are seeking employment in the labour market. These vocational students face the problem of occupational choices. Sometimes their occupational preferences tend to be far removed from the demand of their country's manpower

needs, resulting in surpluses and deficits in certain occupational categories.

When these situations became serious the Ministry of Education in Malaysia decided to intervene by introducing careers guidance and counselling into secondary vocational schools and I was one of the careers guidance teachers for this purpose. As a newcomer to this field, I went through the same stages that occupational choice theory and research had gone. On top of that, I tried to understand the importance of a manpower needs approach to educational planning. My previous experience provided me with a set of questions (see research objectives) which I will be exploring in this research.

1.2 The Main Concern

Malaysia is perhaps the only developing country that has set for herself the goal of becoming a fully industrialised country by the year 2020. The goal is not entirely out of reach, given Malaysia's abundant natural resources, strong economic performance and the fact that the country is, by most criteria, already on the threshold of becoming a newly industrialised country (NIC).

The Sixth Malaysia Plan (Government of Malaysia, 1991a), which constituted the first phase of the Second Outline Prospective Plan (OPP2) (Government of Malaysia, 1991b) established human resource development as the major emphasis and vital policy to promote Malaysia's transition into an industrialised country. It encompassed development policies to diversify the industrial base, enhance human development, promote technological upgrading and reduce structural imbalance among sectors and regions in the country. The Plan

highlighted the need to expand vocational education to increase the supply of a skilled and technical workforce to meet the rapid industrialisation of the economy. To ensure that the country continues to experience strong economic growth and industrial progress, it has been widely acknowledged that the key factor lies in the ability to produce such highly skilled and versatile manpower to support efficient industrialisation through the adoption, adaptation and utilisation of the latest technologies and to convert innovative ideas into processes and products that will sell in the international market. It is thus imperative that skills development and effective manpower and educational planning strategies are given top priority.

Manpower planning in Malaysia has been accorded top priority as an instrument of employment and socio-economic restructuring since the implementation of the New Economic Policy (NEP). Each Five-Year Plan has devoted extensive coverage to manpower planning, with elaborate statistical information relating to NEP manpower targets and performance in terms of restructuring. However, Malaysian manpower planning suffers from a fundamental inconsistency with economic planning and policy.

Interestingly, The Sixth Plan (1991-1995) marked a turning point in the Malaysian economy from a labour surplus to a labour shortage situation. The buoyancy of the economy during the late eighties and the Sixth Plan period created a strong demand for manpower at all levels. This strong demand placed a heavy strain on labour supply, leading to a tightening of the labour market. The unemployment rate, which is an indicator of labour utilisation, declined sharply from 5.1 per cent in 1990 to 2.8 per cent in 1995, the lowest level of unemployment ever recorded. There was also a high turnover of several categories of skilled and professional workers. The education

and training system could not respond adequately to meet all the requirements for skilled manpower. Given Malaysia's relatively small labour supply base, rapid economic growth and corresponding employment growth translated into skill shortages. According to Mohd Noordin (1994), Malaysia is on the threshold of industrialisation and needs a wide range of skilled manpower in order to meet economic and national development expansions. A shortage of skilled manpower can be a serious constraint on output and international competition requires a work-force which is educated and trained to carry out its work effectively. The nation's capacity has to face the challenges of industrialisation and globalization of business towards the 21st. century which will necessitate depending heavily on the labour force.

However, the educational system in Malaysia currently does not provide the right types of qualification, in the right quantity, to the right people, at the right time. The reasons for this mismatch include, both technical inefficiencies in the education system and in the planning structure, and the imbalances referred to above. Other well-known problems include the relative oversupply of highly trained manpower as a result of the rapid expansion of higher education, and the increase in percentage of unemployed and under-employed school-leavers in many areas. Common deficiencies in the provision of manpower have to do with: (a) the under supply of middle-level manual/technical manpower; (b) an oversupply of middle-level white-collar manpower; and (c) an oversupply of high-level manpower, especially of graduates of the arts and humanities, and a simultaneous shortage in agriculture.

Malaysia seems to have a problem of how to gear educational output to the optimal structure of the labour force by skill levels. Policy makers and planners in Malaysia seem to lack the proper methods

and technique to assess correctly the ratios between high, middle, and low-level technology. Obviously, the problem involves correctly projecting the supply of work-force not only to the output capacity of the education system but also to the existing careers guidance role in schools. As a result, the problem of providing employment to school leavers in relevant fields seems to be considerable. In China, a study found that out of about a million graduates from colleges and vocational schools in the early 1980s, less than half were actually working some years later in the field they had been trained for (Loftstedt, 1986: 14).

Educational institutions are facing increasing responsibilities and one of them is to help students find a meaningful role in society. The magnitude of student potential is illustrated by the large numbers of students leaving school each year and seeking entry into the labour market. These unprepared graduates who enter the world of work represent a waste of vital talent. The highest priority must be given to a serious examination of their needs and choices.

Manpower planning has been used to improve the connection of education to work and is referred to as the manpower needs approach to educational planning. Such an approach is based on the view that educational output corresponds to manpower specification in national development plans. Pusstasen (1977: 281) stated that:

The manpower requirement approach is the translation of projected manpower demands into required supplies of educational output.

Here education is planned to supply skill requirement once targets have been decided upon.

This relationship between education and employment has been one of the major preoccupations of educational planning. The problem, then, is one of distribution of the labour force, of matching job requirements with the potential of people to meet them, and furthering economic development.

Growing evidence in the literature shows that occupational expectations or aspirations of students were not in accordance with the national manpower needs in many industrialised and developing countries. Studies between 1967 and 1977 concerning high school graduates' career aspirations in Siberia (Zajda, 1979) show that four out of five students wished to continue their education beyond grade 10 and less than 10 percent wanted to become blue-collar workers. In contrast, the estimates for 1975 forecasted only 15 percent of all students were to enter tertiary institutions, another 21 percent were to enrol in technical college, and 64 percent had to join the labour force. Career aspirations of these graduates did not meet the needs of the Soviet economy. There existed a contradiction between the pupils' 'pyramid of desires' and the state's 'pyramid of demand' and this finding indicates the failure of the Marxist-Leninist labour socialisation to attract the majority of these students towards blue-collar occupations (Zajda, 1979: 247).

Geo-Jaja (1987) conducted a study to identify the occupational aspirations of Nigerian youth and their relationships to the national manpower needs. The study substantiates the belief that students' occupational aspirations are inconsistent both with the manpower requirements of the Fourth National Development Plan and the existing labour market realities. The students' aspirations were professionally oriented and would create a vast oversupply in

professional fields while technical skilled manpower would be in short supply.

Four cross-national evaluations of manpower forecasting for the purposes of educational planning have been made since the early 1970s. The first by Jolly & Colclough (1972) examined 33 manpower studies from 20 African countries. The conclusion drawn was that the effects or error in projected economic growth rates and in estimates of the demand for labour resulting from increases in output had resulted in considerable overestimates of the requirements for skilled labour in a majority of countries. The second set of evaluations covered eight industrialised and non-industrialised countries (Ahmad & Blaug, 1973). The general conclusion was that typical manpower forecasts demonstrated considerable errors in forecasting employment manpower by occupation. It was argued that the case studies showed that forecasts of manpower imbalances are very sensitive to changes in each of the central assumptions of the approach. When forecasts are short-term, aimed at employment policy, the assumptions are plausible. For purposes of educational planning, however, the occupational requirement forecasts need to be much longer term to be useful, although the central assumptions become less plausible. In a more recent set of evaluations, the experiences of 11 Western industrialised, East European and less developed countries, mainly through the 1970s and early 1980s, were studied (Youdi & Hinchliffe, 1985). Among the authors' conclusions were that while forecasts of employment at a sectoral level have proved to be reasonably accurate, their conversion to occupational and educational requirements has remained problematic with a growing reluctance of practitioners in Western industrialised countries to disaggregate the more global forecasts. A set of studies of manpower forecasting in Asian countries reached similar conclusions (Amjad, 1987).

Development Decisions International (1986) did a survey of two-hundred and fifty Egyptian secondary technical school graduates of three-year programmes in two secondary industrial schools and one vocational training centre who left school between 1977 and 1982. They were traced and interviewed regarding the relationship between their courses of study and consequent labour market experiences. The results were disappointing: Most discouraging of all was the low proportion of those graduates who had remained in Egypt who were working in their field of study (55 percent) and the very high proportion who were working in unskilled positions (69 percent). Only 19 percent rated their current position as skilled. Of those working abroad, only 22 percent rated were believed to be working in jobs for which they had been trained. The manpower forecasting projections for the early 1980s, which had suggested considerable shortages of graduates from the three-year industrial schools with a level of demand twice the existing level of output, appear to have been over-optimistic of the ability of the economy to effectively absorb these graduates.

Gottfredson, Holland and Gottfredson (1975), examine the relation of vocational aspirations and assessments to employment reality. A typology was used to organise the United States' 1970 Census data about kinds of employment, and survey data about individuals' aspirations and vocational assessment of high school students and college students. The kinds of employment differed for different education levels and between sexes. Fifty one percent of the men in jobs at high school level or above were employed in realistic occupation, in contrast to eighteen percent of the women. The distribution of aspirations resembled the distribution of actual employment.

On the other hand, there is a lot of research carried out in developing and developed countries which shows that the assumption that technical and vocational students will find, or even look for work in the area related to their training is unfounded. As an example, one tracer study by the Education Department of Malta, (1990) shows that of the 561 male vocational graduates who replied, representing 82.5 percent of the total who received the questionnaire, 20.9 percent were in manufacturing work. 7.3 percent reported that they were working in the tourist industry, whereas another 13.2 percent said they were working in the service sector. The last two figures show that 20.5 percent of the vocational school-leavers were in occupations which vocational schools had not prepared them for.

Based on the previous research they reveal that secondary school students tend to have unrealistically high educational and occupational ambitions. The upwardly distorted educational system, narrow range of available careers, inadequate careers information and limited careers guidance have frequently been cited as reasons why students manifest these unrealistic career ambitions. The positions which students find themselves in on leaving school are many and varied. Some enter jobs of one kind or another. Some are unemployed or on special programmes for those without a job. Some go on to further education. How does it come about that students, who enter vocational secondary schools without differentiation, come to occupy such different positions in life and work after they finish school? Do they arrive there as the result of a series of free and deliberate decisions? Are they influenced or affected by the advice or guidance of parents or careers guidance teachers? Or are they influenced by more than manpower needs?

The focus of this study is on the secondary vocational education that forms part of the overall education system in Malaysia. The intention is not only to increase understanding of the processes and issues involved, but also to consider the implication of these understandings for the school system in general and for the practice of guidance in particular.

1.3 Research Objectives

The objectives of the study are:

- to concentrate on the extent to which students of vocational schools are aware of national manpower needs and how their occupational expectations relate to them.
- to explore the extent to which factors other than manpower needs may affect students' occupational expectations.
- to investigate the role played by careers guidance in the vocational school in helping students to make their occupational decisions.
- to acquire an understanding of the role of the technical and vocational education planners in relation to the way manpower and educational planning has developed and operates.

Consideration will be given to exploring some of the possible implications of the findings for the planning and policy of vocational education in Malaysia. In selecting the research methods, the researcher has followed the advice given by Lewin (1990) that the

methods should be selected predominantly on the basis of research questions rather than being embedded in paradigmatic confrontations. As a result, a multi-methods approach was adopted for this study using questionnaires, interviews, fieldnotes and documentary analysis. A more detailed consideration will be given to these factors in Chapter Five of the thesis.

The insights gained from the study will hopefully assist in identifying ways that will expand our understanding of the students' labour market knowledge, including the extent to which their occupational expectations are realistic. Furthermore, it is hoped that this research will help enlighten policy makers in discovering and understanding the impact of what had already been done in terms of careers guidance in secondary vocational school (SVS) and make recommendations for improvements where appropriate.

The Malaysian Manpower Administration and Planning Unit (MAMPU), and The Ministry of Education (through the Educational Planning, Research and Development) were concerned to ensure that young people fully understood their expected occupational choices. However, there is little evidence of young people's awareness of their choices and attitudes to them.

Vocational school leavers' initial decision making on career and choice is a complex and interactive process: interests and choice can be modified by available information, by the influence of peers, teachers, careers guidance teachers, parents and other significant adults, as well as their own life experiences inside and outside school. Thus, students become socialised into making particular choices by their judgements of the opportunities realistically available to them within

the labour market. Labour markets have also been shown to affect both student's attitudes to education, training and government schemes and their evaluation of vocational guidance (Gray and Sime, 1990). Thus, it has been argued, the impact of local contexts requires exploration alongside national patterns and trends.

Estimated employment targets forecasted by planners to meet the economic needs of the country often clash with the needs and capabilities of students who are seeking employment in the labour market. In most of the developing countries where the education system cannot fit in all school age youths, there is a high percentage of secondary school graduates joining the labour market.

Table 1.1: School Leavers by Qualification Level

QUALIFICATION LEVEL	SEX	1993	1994	1995
Lower Secondary Level	Male %	50.34	50.36	50.36
	Female %	49.66	49.64	49.64
	<i>Total</i>	99,906	97,484	98,459
Upper Secondary Level	Male %	49.63	49.58	49.59
	Female %	50.37	50.42	50.41
	<i>Total</i>	138,627	143,113	144,545
Higher Secondary Level	Male %	44.92	44.95	44.95
	Female %	55.08	55.05	55.05
	<i>Total</i>	31,875	32,534	42,858
Total		270,409	273,131	275,862
	Male	133,410	134,680	136,025
	%	49.34	49.31	49.31
	Female	136,999	138,451	139,837
	%	50.66	50.69	50.69

Source: Statistics on Manpower Supply, Research and Planning Division, Ministry of Labour, Malaysia

At present the majority of production/process workers in manufacturing do not receive pre-employment training and the major source of supply is SVSs. According to the projections made by the Research and Planning Division of the Ministry of Labour in Malaysia (Table 1.1 above) the number of school leavers in 1995 is estimated at 275,862 of which 37 percent are lower secondary level, 52 percent of upper secondary level and about 16 percent of higher secondary level.

About 35 percent of secondary school leavers will have undertaken vocational courses relevant to manufacturing. The secondary school leavers were second in the employment sector.

These students who are joining the labour market face the problem of occupational choices. They are often unaware of the range of occupations and have little opportunity to observe work in its industrial setting. Many of them face the problem of making vocational decisions against a background of social pressures. There are several studies which analyse how school leavers in Malaysia move from school to work. Those studies are by Aziz et al., (1987); Chew et al. (1990); Thomas (1990, 1994). The studies indicate that the process was a lengthy one for many young persons. Some were slow to enter the labour market; they were undecided whether to continue their education, or take courses, or be at home. Some were willing to take low-paid work, but many wanted reasonably paid work and were willing to wait. It is stressed by Mangum and Mangun (1984) that the difficulty in adjustment to labour market dynamics has probably contributed to drop-out rate and unemployment which occur because students fail to perceive a direct link between their education and employability. Also, the labour market operated slowly, even for those who had a clear idea of the jobs they wanted and how to get them.

Here, with reference to the particular SVS, certain skills could be in short supply as a result of imperfect labour market information. Students and new entrants into the job market may have misconceptions about the current status of the market and long-term career possibilities in the industry. A bias against 'blue-collar work' very often influences occupational choice of vocational school leavers into the labour market. Shortages of skills in the industry coupled with the rising wages of those skilled, do not help them make appropriate occupational decisions. Current workers too may have been poorly informed about the industry and the need to upgrade their skills through training or retraining. More importantly, SVSs may be inadequately informed about the state of the labour market with regard to the skills they train, and therefore fail to adjust the curricula to the changing conditions of the labour market. More accurate and timely labour market information has to be disseminated widely to vocational school leavers through careers guidance and counselling programmes.

Thus, faced with the task of assessing their own abilities for a wide range of career possibilities, the student usually lacks adequate data on different occupational requirements; expert and neutral guidance in career selection; and information about the quality, time and personal expense of training. Many entrants into the labour force suffer from such shortcomings. Sometimes their occupational preferences tend to be far removed from the demands of their country's manpower needs, resulting in surpluses and deficits in certain occupational categories.

1.4 Conceptual Framework

Underlying research in social science there is an implicit or explicit conceptual framework. This conceptual framework is of great importance because it constitutes a part of the intellectual foundation on which the entire study rests. To understand the relationship between manpower needs and students' occupational expectation, the study has to examine the theories of careers and occupational choice, manpower and economic development and the manpower needs approaches to educational planning.

The functioning of the education system in the past contributes to the 'match or mismatch' it has with the economic system at present. Most important of all, the occupational expectation and attitudes of the students contribute in a complex way to the relationship between education and national manpower needs. A better match between the occupational expectation of students and the expectations and requirements of employers, along with the adoption of better employment procedures, could result in higher productivity, more job satisfaction and less structural imbalance in highly qualified manpower.

Not surprisingly, a variety of professionals are concerned with occupational choice processes. Interestingly, economists have examined the constraints imposed by the structure of the labour market itself. Sociologists have provided authoritative accounts of the degree to which students' opportunities are influenced by their family background. Meanwhile psychologists have attempted to examine the way in which individuals respond to, and cope with, these influences and constraints when making decisions about which occupations to enter. However, because the contributions from the different

disciplines lack cohesion there remains a gap between the theory and practice of careers guidance.

Sociological theory of occupational choice states that aspects of society are the prime determinants in the choice of a career. The factors include family, peer group, social class, school, ethnic group, geographical region, church and parents' occupations (Laramore, 1978). These factors can have either a negative or a positive influence and exert a major influence on the course of a person's entire life, including his educational and vocational decision (Osipow, 1973). The theory emphasises the influence of factors beyond the control of individuals, such as the demand for labour and structural constraints imposed by technology and impersonal market forces. It stresses, also, the ways in which the prevailing influence of institutional life shapes the career behaviour of individuals (Stevens and Mason, 1994). This approach is illustrated in the writing of Caplow (1954), Form and Miller (1949) and many others.

According to the reality theory of vocational choice, parental influence or the projection of parental ambitions into the careers of their children is a common factor affecting the selection of a career. Caplow (1954), a prominent figure in reality theory, argues that the occupation of the father determined that of the son. Similarly, studies done by Form and Miller (1949), Blau and Duncan (1967), and Kaelin (1993) support this finding.

I have no doubt that education is one of the principal devices for the limitation of occupational choice. Education encourages the student to embark upon certain subject specialisations and thereby to renounce

other careers. Furthermore, the educational environment does exert an influence on students' occupational choices.

Another widely quoted sociological account of occupational choice process has been provided by Ashton and Field's (1976) fascinating account of the three class cultures. Firstly, according to them it is possible to identifying the 'careerless' transition from school to work. School leavers in this category are seen as coming from families whose lives are dominated by the day-to-day demands of existence. They define school leavers in the 'careerless' group as:

Those who make the transition from the lower streams of state schools into semi-skilled and unskilled work without experiencing serious problems of adjustment. The majority of these young people are from families in which the parents are in careerless jobs, i.e. jobs with low levels of income which do little more than cover the necessities of life and which may be subjected to weekly fluctuations, their parents will have had little formal education and usually lack the knowledge and social skills necessary to make the most of the education and social services formally available to them (pp. 36).

They point out that these family circumstances have the effect of denying school leavers occupational choices with a long term 'pay-off'. School leavers from 'careerless' families, come from and enter into the world of the 'immediate present.'

The second group Ashton and Field identify are youngsters who enter 'short-term career', jobs that offer short-term career prospects. They define these as follows:

The occupations we have in mind are skilled manual trades, technical occupations, e.g. Post Office engineers, and certain types of clerical and secretarial work. The majority of these young people come from families whose parents are in such jobs and move through middle levels of schools and the middle sets of comprehensive schools... Although the resources of these families are really

stretched, their incomes are regular and dependable and sufficient to meet day-to-day recurrent expenses. In addition the level of income has some possibility of a real increase. This serves to free the family from the chronic anxiety associated with “making ends meet” found in lower income families and allows a degree of long-term planning (pp. 55).

They argue that this group is not free from the crushing demands of the ‘immediate present’ but will have received more ‘encouragement’ at school. They learn to accept the definition of themselves handed down by teachers as not particularly bright but nevertheless of some ability and capable of development. They argue that having acquired this self image and orientation to the world these school leavers will then seek out occupations that offer the possibility of developing their abilities to the full and of making something of themselves.

The third group identified by Ashton and Field consists of school-leavers entering ‘extended careers’. This group is seen as having two entry patterns. The first consists of:

The early school-leavers who try to enter administrative and certain commercial occupations. This group of young people are to a certain extent the pupils who either do not see themselves as having the ability to continue beyond ‘O’ or ‘A’ level or wish to leave immediately they have extended career....they contain a high proportion of children from working class families and can be found among the largely middle class group who continued onto higher education (pp. 72).

This second group who enter extended careers is described as:

Those who continue on to some form of higher, full-time education before entering work.....these tend to enter the ‘higher’ professions.... the management of the household finances raise few serious day-to-day problems of the type facing the working classes, for the resources at the command of the parents are easily able to cover expenses (pp. 72-72).

They claim that those entering extended careers come to accept the concept of 'deferred gratification'. They see themselves as having influence over events: They learn to relate to others not so much in terms of immediate rewards and consequences but primarily in terms of the long-term rewards that can be achieved. Ashton and Field's configuration of the relationship between family/educational backgrounds and the characteristics of occupational decision making into three 'class cultures' has made a marked impact. However, Sofer (1974), in his introduction to 'Occupational Choice', writes of the difficulty of getting a grasp of the social processes and institutional forces. Sofer argues that theoretical contributions should also show how precisely social processes have influence on individual occupational choices.

The social forces, as illustrated by Osipow, Caplow, Ashton and Field and many others are undeniably powerful, but can occupational choice be explained solely in these terms? Therefore, the role of the sociological influences in the study provides the variables to be investigated - parents' background, students' subject specialisation, job-related factors, social background differences and formal and informal careers guidance. The study will not test the validity of the sociological theory of occupational choice.

1.5 Rationales of the Study

In the last three decades, there has been a rapid expansion of education, especially secondary and tertiary education, in Malaysia. This expansion is a consequence of economic, political, social and cultural factors. As in other countries, education in Malaysia is recognised as an important investment in human capital. It

contributes to socio-economic development by providing people with skills, knowledge, capability and modern attitudes for productive work. As a result, a substantial proportion of the country's resources has been allocated to technical and vocational education.

Ethnic sponsorship in education, an outcome of the government's policy to enhance the educational opportunities of the poor and reduce income disparities among the ethnic groups, has raised the educational aspirations and expectations of the Bumiputera (indigenous group). This policy has led to an increase in the proportion of Bumiputera at all levels of educational system. Education, especially technical and vocational education, enhances a person's employability in the modern sector. This, in turn, enhances his income, prestige and status. As people become increasingly aware of the economic and social benefits of vocational education, vocational educational institutions attract more and more students. Since the benefits of vocational education are perceived as pervasive, it is not surprising that Malaysia, as in virtually all other countries, has embarked on a rapid expansion of its educational system in the last two decades.

Apart from the above, technical and vocational education enhances the cultural and political development of a society. It also helps to create a climate for modernisation and education contributes towards the effective functioning of a democratic system.

The rapid expansion of vocational education in the country has, in some respects, as many problems as it has solved. Quite apart from the problem of escalating cost, there is the problem of discrepancy between the output of the vocational education system and the

absorptive capacity of the labour market leading, in turn, to skilled manpower surpluses and shortages. In qualitative terms, questions have been raised as to whether the content of the vocational education system or curriculum is able to meet the changing needs of the economy and society. These problems arise and persist partly because of a lack of information regarding the complex relationship between the vocational education system and the world of work.

Through my reading, I found that much discussion in the literature today centres on the relation between supply and demand of workforce needs. Important questions about the formation of occupation preference among youths from developing countries have been relatively unexamined. Within the Malaysian context, there are a few studies that examine the relationship of occupational choice and manpower needs but not in the aims and objectives of the vocational education programme. In fact, enrolment in vocational education in Malaysia has increased threefold during the period 1987-1993. This increase in enrolment has led to an increase in the output of school-leavers from vocational education. One of the factors that may be identified as being responsible for the rapid expansion of vocational education is the economic factor. In most of Malaysia, the policy behind the development of vocational education was to supply the economic growth as rapidly as possible with the skilled manpower necessary to eliminate human resource bottlenecks in expanding sectors.

For work to yield its best results in terms of personal satisfaction and socio-economic benefits, it is important that it should match, as accurately as possible, the aptitude and the abilities of the individual. A serious mismatch can cause frustration and dissatisfaction on the part of the individual, and diminished productivity and potential

unrest on the part of the community. For the vocational educational system to be capable and better equipped to take this into consideration, it should incorporate an effective careers guidance and counselling system, as will be shown later; and should diversify its vocational preparation offerings to correspond, in general, to the various occupational fields and levels in response to socio-economic requirements.

For now there is insufficient information on the extent and nature of the relationship existing between occupational choice and subsequent manpower needs in Malaysia to draw any firm conclusions. So far, studies have concentrated on a single-discipline approach, focusing either on employment, manpower survey or students' aspirations. For example, a manpower survey in 1973, covering both the public and private sectors, provided the information needed for the planning of human resources for the Third Malaysian Plan (1976-1980) and for the perspective plan period 1971-1990. It provided data on: (a) The stock of manpower by economic sector, occupation, race and level of educational attainment; (b) The extent to which the supply of trained personnel in key occupations fell short of requirements; (c) The utilisation of output from vocational training institutions; and (d) The extent to which the private sector undertook on-the-job training and the requirements of manpower by sectors as forecasted by employers. Even the ten years plan National Development Policy in The OPP2 1990-2000 provide data on: (a) The population of Malaysia is projected to increase from 18 million in 1990 to 22.7 million in the year 2000; (b) Employment estimates by sector, 1990-2000; (c) Profile of labour force, 1990-2000; (d) Occupational structure, 1990-2000; and (e) Capacity of local institutions to meet the demand for selected professional and technical occupations, 1991-2000.

The Employment Turnover Survey in Malaysia by Psacharopoulos, Hinchliffe, Dougherty and Hollister (1983) gathered systematic data on quitting, hiring and promotions at various skill levels from a sample of firms in various industries and regions in Malaysia. Findings from this report showed that it may be possible in the near future to get a much clearer picture of the dynamic labour market in Malaysia.

As in many other countries, vocational education in Malaysia is expected to play an important part in the development of human resources for its aspired economic growth. It is therefore very important to ensure the effectiveness of this programme. Any shortfall in the practice of educational planning which obstructs the programme from fully achieving its objectives, needs to be identified as this would undermine its effectiveness. For example, information on the relative effectiveness of different types of careers guidance and counselling will be valuable for setting up such schemes and for improving existing procedures. Data on the relative strength and weakness of different forms of organised vocational education and training will be useful in guiding policy decisions.

Finally, although manpower needs approaches and educational planning have been used in some developing countries for a considerable time to ensure an adequate supply of qualified manpower for the economy, the problem of manpower shortages still persists.

1.6 Significance of the Study

The success of vocational education depends not only upon the provision of physical facilities and qualified teachers, but also as

much upon attitudes, aspirations and expectations of the students themselves. The students' aspirations and expectations must therefore be taken into consideration in the planning of vocational education. Vocational education planning should not be based only on opinions of educators and planners. If aspirations and expectations of students are at variance with the intentions of educators and planners, the amount of money pumped into the vocational schools will produce the desired effects. Countless experiments with vocational education in African states had to be abandoned because the intentions of planners and educators ran counter to African opinion on the type of education their children needed (Blaug, 1973).

The study of students' occupational expectations is therefore necessary. If the expectations are not on a par with educators' and manpower planners' intentions, then proper careers guidance and counselling can be given to help students see clearly what opportunities lie ahead of them and to help them make the right choice. They should not be left on their own after being taught the skills. It is in the area of careers guidance and counselling that SVSs in Malaysia are seriously lacking. Students are trained in certain skills, but may eventually end up in occupations at variance with the skills possessed. If this happens, then it will be a waste of the already scarce resources of the nation. The information and data generated could prove to be useful in helping to ease the transition process of vocational students from school to work.

The study hopes to contribute to the body of knowledge in manpower needs approaches to educational planning. The analysis of occupational expectations of vocational students facilitates the linking of human resource and economic planning, and it provides a necessary and important set of data as indications of the relationship

between the vocational education system and the country's plans or expectations. Adjustment of SVS output to manpower needs signals can be done so as to close the gap if the country plans to do so. More useful perhaps is the fact that such information and data could lead to an improvement in planning and policy-making for the development of a more effective and efficient vocational educational system and labour market.

The study hopes to throw some light on certain aspect of students' educational and occupational expectations, which might be of help to careers guidance teachers and possibly to human resource and economic planners. Furthermore, information on the relative effectiveness of different types of careers guidance and counselling could be useful for setting up such schemes or for improving existing procedures. The tremendous lack of information on students' aspiration and expectations is thought to be a serious handicap to the proper functioning of the SVSs. Data on the relative strength and weakness of different forms of organised vocational education could be useful in guiding policy decisions on these aspects of education. Information on the educational and training needs of different types of jobs and variables influencing career patterns are also useful not only for a student's decision with regard to his education and occupation but also for the development of an efficient vocational educational system and labour market. In the next Chapter the Education System in Malaysia is discussed to give a perspective on the setting in which this study was conducted.

CHAPTER TWO

MALAYSIA: SYSTEM OF EDUCATION

2.1 Introduction

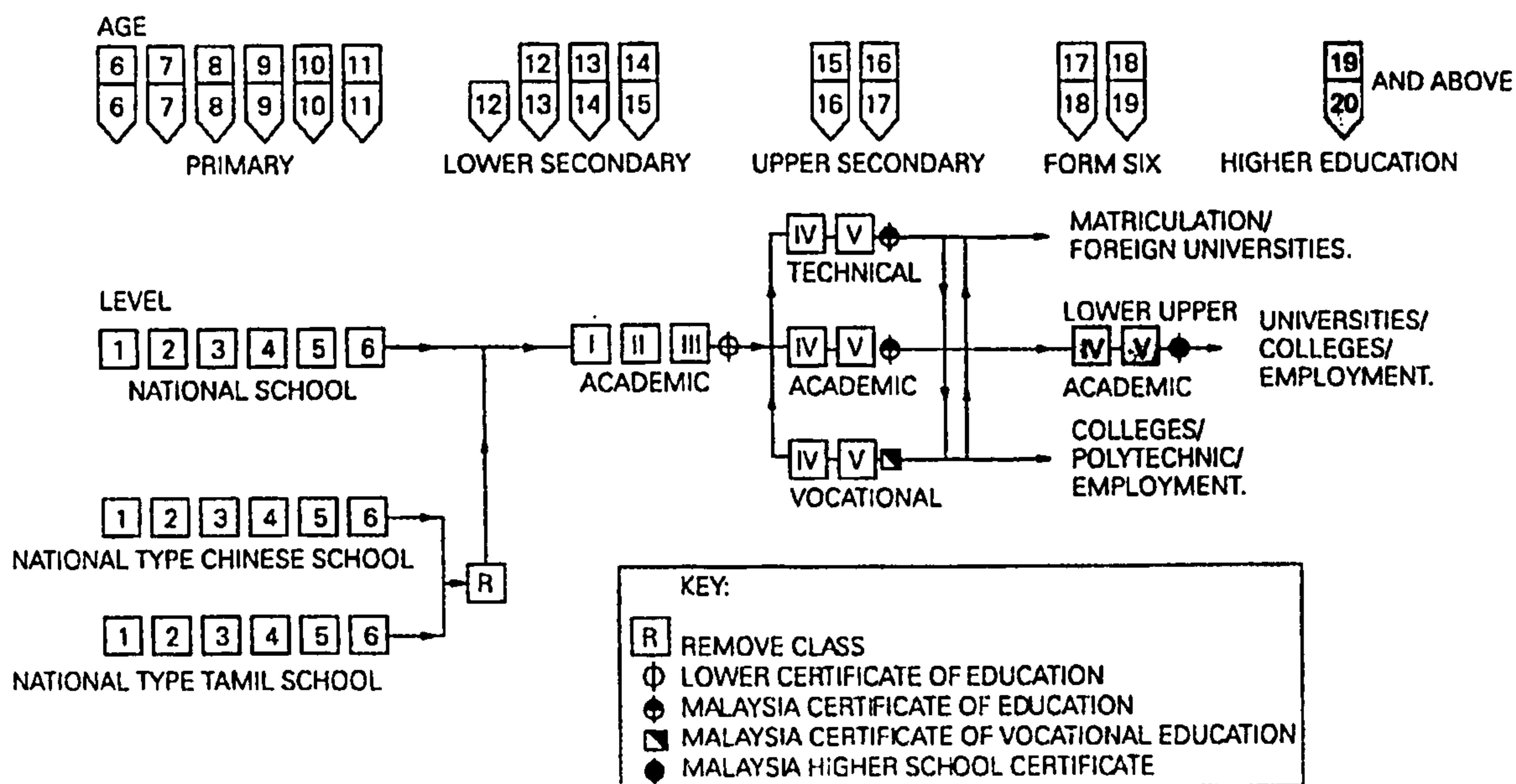
This chapter deals with some background information on the system of education as well as vocational education in Malaysia. It is aimed at giving a perspective on the setting in which this study will be conducted. It begins by discussing the educational setting, the position of vocational education and need for vocational education in Malaysia. Next, it looks at the development of a vocational education programmes within the Ministry of Education (MOE), vocational education as preparation for world of work and finally, it discusses the careers guidance service in the Malaysian education system.

2.2 Educational System in Malaysia

Basically, the educational system of Malaysia is comprised of four levels: primary, secondary (lower and upper), post-secondary (sixth form or matriculation) and tertiary. This is depicted in Figure 2.1.

The duration of primary education is six years with children starting school at the age of six. Education at primary level is provided in three language media. The national primary schools use Bahasa Malaysia (Malay language) as the medium of instruction and the national-type Chinese and Tamil schools use Mandarin and Tamil respectively as the media of instruction. On completion of primary education, pupils are automatically promoted to the lower secondary level.

Figure 2.1 The Education System in Malaysia, 1994



Source: EPRD 1994

Pupils from the national school move directly into Form One while those from the national-type, Chinese and Tamil schools, normally make the transition through a year of 'remove class' where they concentrate on improving their proficiency in Bahasa Malaysia. However, pupils who perform well in the Primary School Achievement Test - PSAT (abbreviated UPSR in Malay), are exempted from attending a remove class and are allowed to proceed directly to Form One (New Straits Times, October 8, 1995). Children start school at the age of 6. The school year in Malaysia begins in January. Parents are free to choose the type of schools for their children. In 1995, the enrolment figure for primary school was 2,808,210 which represents 99 per cent of the population of the 6 to 12 year old age group (Government of Malaysia, 1996). The high enrolment is due to the policy of providing free education with automatic promotion: the availability of improved facilities such as the provision of hostels in remote areas; and an increased realisation amongst parents of the importance of education.

The secondary level of education is divided into a three-year Lower Secondary (Forms I-III) and a two-year Upper Secondary (IV and V) cycle. At the end of this level of education, students take the national public examination called the Lower Certificate of Education - LCE (abbreviated SRP in Malay). Since 1993 this examination has been renamed the Lower Secondary Assessment - LSA (abbreviated PMR in Malaya). Based on their performance in this examination, students either proceed to a two-year upper secondary education (academic, vocational or technical) or terminate their schooling and seek employment. In 1990, the transition rate between lower-secondary and the upper level was 67.18 percent (MOE & EPRD, 1992). In 1995, almost 0.95 million students were enrolled at the Lower Secondary Level (Government of Malaysia, 1996). While students were previously selected for streams based on academic performance, as from 1992, under the Integrated Secondary School Curriculum, students studying at Form IV (Grade 10) in general academic schools will be allowed to select electives from various groups apart from the core subjects.

At the end of upper secondary education, students of the Arts/Science 'academic' stream sit for the Malaysia Certificate of Education - MCE (abbreviated SPM in Malay). Students who are qualified and who wish to pursue higher education proceed to the sixth form. The transition rate from upper secondary to the sixth form is about 19 per cent (MOE & EPRD, 1992). In 1995, 589,580 students were enrolled at the Upper Secondary Level and 8 per cent of total are sit for the Malaysian Certificate of Education, Vocational - MCE(V) (abbreviated SPMV in Malay) examination, to enable them to apply to the polytechnics or facilitate entry to the labour market.

In 1992, there were two programmes offered at the post-secondary level - the sixth form and matriculation classes. Sixth form education

prepares students for the Higher School Certificate Examination (conducted by the Malaysian Examination Council) which is the requirement for several courses conducted at local universities. In 1995, the enrolment figure for Post-Secondary Level reached 83,460 students (Government of Malaysia, 1996). Competition for local university places is keen. On average, about one in three qualified applicants succeeds in gaining a place in the university (Zainal Ghani, 1990). In addition to the above route to the university, an alternative route for the Bumiputera students has been created in recent years. Bumiputera students with creditable results may be channelled into two-year pre-university or matriculation classes after which candidates who are successful in the examination proceed to the university. There are alternative educational opportunities for students who do not proceed to the local university. Students with the appropriate secondary qualifications may seek other forms of tertiary education either locally or overseas.

However, the economic profile of Malaysia has changed mainly based on agriculture and the production of tin ore and a more balanced economy with continuing growth in the manufacturing and industrial sectors. In line with the sectoral changes in the economy, job opportunities and human resource development plans have accordingly been reviewed. Increasing demands and requirements placed on training must be met in order not to slow down the rate of growth of the industrial and manufacturing sectors. Therefore, there is a need to upgrade and improve educational programmes, in particular the direction and development of vocational education. As the continued expansion and technological needs of the manufacturing and industrial sectors progress there is corresponding demand for vocational education to meet both its 'quantitative' and 'qualitative' targets.

2.3 Vocational Education in the Mainline Formal Education System

In 1965 a major change took place in the school system which led to the development of the present vocational education system. It was the introduction of the new comprehensive system of education at lower secondary level (13-15 years old). In the new system, students received general education with a vocational or technical emphasis on Industrial Art, Agricultural Science, Commercial Studies and Home Science in their first three years in secondary school (Government of Malaysia, 1966: 167). This concept was then extended to the upper secondary level (16-17 years old). At the upper secondary level, vocational education in Engineering Trades, Agriculture, Commerce and Home Science were made available (TEDRU, 1978: 20). It is provided for those who have completed nine years of primary and lower secondary education and who, by their inclination or choice, will not be entering upper secondary academic school (Government of Malaysia, 1966: 168). It was decided that such programmes were to be carried out in institutions called Secondary Vocational Schools. This decision has added a new feature to the formal education system in Malaysia.

2.3.1 The Position of Vocational Education in Malaysia

In many developing countries, vocational education has somehow been relegated to the bottom of the educational hierarchy. This may not be so for vocational programmes at the advanced level but is true in most cases for vocational programmes at the craft and trade training levels. This is in spite of the fact that the rapid development of science and technology in our present time requires education to prepare students to face technological changes and to be relevant to

the world of work. Vocational education has a major role to play, especially if technology is to be applied to the problems of development, in terms of skilled and trained manpower to carry out the task of economic development.

In Malaysia, the initial resistance to vocational educational programmes, especially in the early years of the introduction of 'trade school', has been replaced with a more ready acceptance by the general society. This 'up-lifting' of the image of vocational education is due to the corresponding increasing importance of employment in the industrial sectors, efforts at promoting vocational education by the government and the changing nature of vocational education programmes. According to the Minister of Education Malaysia, Datuk Najib (1995), vocational education was important in view of the rapid expansion in the industrial and service sectors and hence the need for skilled manpower with technical background. Vocational education has progressed from very basic craft training of a narrow psychomotor nature, to vocational education of today which encompasses high cognitive knowledge, the study of mathematics and the sciences. In most developing countries, the question of 'the position of vocational education' needs to be properly addressed in order to be able to attract the correct types of students into vocational education programmes. Vocational education is expensive and many areas of present day vocational education are highly cognitive in nature. Students who chose to enter vocational education today must have the capability to follow such course content. Otherwise the 'wastage' from the training programme and for the students will be tremendous. Planners and administrations of national educational systems and the society in general, need to be aware of this changing trend. This is important for the rapid technological progress necessary for industrial development.

The various factors, combined with currently a more 'cognitive nature' of vocational education, and an increasing sophistication of the Malaysian industry, have made the need for a new direction of development for vocational education in Malaysia more urgent. In view of the challenges ahead, Malaysia should be well equipped with a strong base in education and training. There is a need to continuously upgrade and improve education and training programmes. The OPP2 calls for an emphasis on the development of science, mathematics, manipulative and communicative skills as well as proficiency in English so that school leavers can be more readily prepared for employment and further training by their employers.

A very good example in achieving this target is Germany where nearly 70 percent of all school leavers (even those aiming for university education) further move through a system of vocational education. The training called the 'dual system' where vocational training constitutes 75 percent of the syllabus with theoretical training and general education making up the remaining 25 percent. Almost 40 percent of all university students have finished an apprenticeship before entering university.

2.3.2 The Need for Vocational Education in Malaysia

In the 1980's, Malaysia invested heavily on the quantitative and qualitative improvement of vocational education following recommendations by the Cabinet Committee Report on Education, also known as Mahathir Report (MOE, 1980). The Government has noted the increasing importance of vocational education and training and has involved itself very actively in the continued development of its programmes as envisioned in vision 2020 (Datuk Sri Dr Mahathir

Mohammad, 1991). A Cabinet Committee was established to conduct a comprehensive assessment of the needs of vocational education and to overcome the shortage of skilled manpower. The Cabinet Committee Report on Training (MOE, 1992) has suggested the need of an effective overall control and management of vocational education and training system, in order to reduce educational wastage through a mismatch between educational output and job opportunities.

In order to further strengthen the current educational and training delivery system and to improve the effectiveness and efficiency of skills training in the country, several broad policy reforms were recommended and at present are being implemented. It is recognised that the industrial and manufacturing sectors are important for the continued fast growth of Malaysia and the country cannot afford to have 'skill bottlenecks' that may slow down economic development.

The World Bank policy paper on vocational and technical education and training (World Bank, 1991a) argues that the most effective use of public resources to improve the productivity and flexibility of the workforce is through investment in general education (as opposed to vocational education) at the primary and secondary levels. Related to this issue is the need to review the scope and relevance of this policy to vocational education in Malaysia which in recent years faced an increase in student demand for places in the SVSs (TAVED, 1993). In particular, the need for vocational education in Malaysia, is mainly, but not entirely, due to economic factors. There are also social as well as political factors.

2.3.2.1. Based on Economic Factors

The establishment of British administration through the latter part of the nineteenth century led to an increase in commercial enterprise and development, especially in rubber and industry. As a consequence there was a need for a labour force which was not readily available locally. This period witnessed an influx of Chinese and Indian immigrants in response to a labour shortage in the major economic sectors, thus transforming the demography and homogeneous nature of the indigenous society (EPRD, 1990: 1). Such economic development was also supported by new technology which required a labour force with certain skills which again were not readily available locally. Therefore the need to train the work force became significant.

In the early sixties there was an increasing awareness of the vital role of the human factor in economic development. Evidence from some studies in other countries suggested that 20 percent to 30 percent of the growth of a nation in income may be attributed to quantitative increases in capital and labour inputs, while the remainder was due to qualitative improvement in these inputs, including increases through education & training (Government of Malaysia, 1966: 163). This strongly influenced the development of vocational education in Malaysia through the establishment of a number of secondary vocational education in the late 1960s.

Since its introduction, the need for vocational education to play its role in supporting desired economic growth has become more and more significant as the economy of the country has grown quite rapidly for twenty years. In order to modernise the economy, the government had initially relied on imported substitution industries in the sixties but by the mid-seventies it had begun to encourage export

oriented industrialisation, first, by relying on textiles and later electronics and rubber-based products (Sulaiman, 1992a: 100). The nation also relied on foreign investment to finance its industrialisation programme. In the early eighties the government went into heavy industries such as automobiles, cement and steel production. In the seventies and early eighties, the economy expanded at a credible annual rate of about 6 - 7 percent, allowing standards of living to improve significantly among the Malaysians.

The world recession of 1985 affected Malaysia markedly in view of the openness of its economy and the dependence of its commodity exports on world supply and demand conditions. Given the slow growth in world trade and declining major commodity prices, especially of petroleum and palm oil, the Malaysian economy experienced a negative growth of one percent in 1985 and a growth of about one percent in 1986, a development unprecedented in the previous decades (Sulaiman, 1992b: 78). This has prompted the government since then to take serious pre-emptive measures to prevent a recurrence, by embarking on a well planned diversification programme to broaden the export base (Leong and Lim 1992: 18).

It has been well understood that the expansion of the industrial sector has provided the main stimulus to the growth of the Malaysian economy. For the first time in 1987, the contribution of the manufacturing sector to the gross domestic product surpassed that of agricultural sector. For 1985-1990 period, the sector expanded from 19.7 percent to 27 percent of the gross domestic product, while the share of agriculture declined from 20.8 percent to 18.7 percent over the same period (Government of Malaysia, 1991).

The manufacturing sector has expanded rapidly, making it the leading sector in the economy as well as the largest sector in terms of employment creation (Government of Malaysia, 1991b: 125). As a result of this, Malaysia is beginning to feel the strain that comes with rapid success. Labour, especially skilled manpower, is getting scarcer. Sulaiman (1992b) confirmed that at the moment Malaysia is really faced with skilled labour shortages. This indicates that the aim of the vocational education programme for creating Malaysia's own expertise to take full control of its development is still far from being achieved. Therefore the need for vocational education continues.

The need for vocational education and training for Malaysia's future economic development is even more significant as the country is now planning and working hard to move forwards and become a developed and industrialised country by the year 2020 with the target being set to increase gross domestic product (GDP) to about MR920 billion in 1990 prices.

This requires the country's economy to grow annually at 7 percent in real terms. It is expected that this rate of growth is attainable as Malaysia has grown annually at the rate of 6.9 percent for the last 20 years (Sulaiman, 1992a: 103). The industrial sector is expected to continue to play its role as an important engine in the economic development towards achieving that important and challenging target stated in the Sixth Malaysia Plan (Government of Malaysia, 1991a).

2.3.2.2. Based on Manpower Requirement

The rapid economic expansion of the 1970s was accompanied by a high rate of increase in employment. Unemployment rates fell

significantly from 7.5 percent in 1970 to 5.7 percent in 1980. As a result of the economic slowdown in the first half of the 1980s, the rate of unemployment increased to about 6.9 percent in 1985. However, it fell to 5.1 percent in 1990. Available data indicates that the unemployment rate has declined further to about 2.8 percent in 1995 (Government of Malaysia, 1996).

An analysis made by the Ministry of Finance on manpower requirements shows that to have targeted economic growth rate of 7 percent, the manpower requirement for various economic sectors and for various occupational groups must be as in Table 3.3 and Table 3.4 respectively in Chapter 3.

The rapid growth of the manufacturing activities, especially towards higher value-added, led to an increasing demand for skilled and semi-skilled manpower. During the period 1991-1995, about 149,580 skilled and semi-skilled manpower were produced by both the public and private education and training institutions. Total output increased from 21,170 in 1990 to 34,630 in 1995, registering a growth rate of 10.3 percent per annum during the period, as shown in Table 2.1. Output from the private sector increased from about 3,300 in 1990 to 8,300 in 1995, with total output amounting to 31,970 during the period.

Almost 82 percent of the output in 1995 were in engineering trades, particularly mechanical and electrical engineering, reflecting the responsiveness of the skill formation system in meeting the increased demand for skilled and semi-skilled manpower in the manufacturing sector. The supply of skilled and semi-skilled manpower was mainly from the public technical and vocational school training institutions.

Table 2.1: Output of Skilled and Semi-skilled Manpower by Course, 1990-2000
(person)

Course	1990			1995			2000			Average Annual Growth Rate (%)			
	Public	Private	Total	Public	Private	Total	Public	Private	Total	6MP	7MP		
												6MP	7MP
Engineering Trades	15,076	2,715	17,791	20,643	7,496	28,139	22,994	15,078	38,072	121,110	173,068	9.6	6.2
Mechanical	9,661	709	10,370	11,766	1,679	13,445	11,862	3,378	15,240	58,972	72,330	5.3	2.5
Electrical	5,230	1,936	7,166	8,647	5,743	14,390	10,896	11,551	22,447	60,701	99,012	15.0	9.3
Civil	185	70	255	230	74	304	236	149	385	1,437	1,726	3.6	4.8
Building Trades	2,686	110	2,796	3,405	205	3,610	3,954	412	4,366	16,845	17,838	5.2	0.0
Printing Trades	29	9	38	102	25	127	2,392	51	2,443	414	12,155	27.3	80.6
Others	18	429	447	1,478	576	2,054	4,984	1,158	6,142	7,711	29,387	35.7	24.5
Skill-Upgrading	97	n.a	97	700	n.a	960	960	n.a	960	3,500	4,800	48.5	6.5
Total *	17,906	3,263	21,169	26,328	8,302	34,630	35,284	16,699	51,983	149,580	237,248	10.3	8.5

Source: Malaysia, Government of (1996) Seventh Malaysia Plan, 1996-2000.

Notes: * Does not include output from course such as commerce, agricultural, home science and other soft skills.

n.a. Not available

Both the government and the industry commonly recognised the growing demand for skilled workers and technicians. Employer's association (Federation of Malaysian Manufacturers, as reported in *The Star*, 10 February 1993) and various other organisations (Pillai, 1994; Pillai & Othman, 1994) have openly expressed their concerns about the lack of skilled workers. The government has implemented a programme of investments to expand the system as employers' needs are recognised. The vocational education system has significant potential for capacity expansion to meet these growing demands. Techint (1991), predicts that the number of students seeking vocational education will increase, not only due to the implementation of the government's plan to introduce eleven years of schooling for all students, but also due to more students realising that vocational education and training is more likely to prepare them for a job on completion of schooling.

Furthermore, it is realised that the industrial environment is becoming increasingly complex due to the rapid pace of technological change. To survive against international competition modernisation in Malaysian industry is inevitable. This requires a work force which is educated and trained to carry out its work productively, effectively and efficiently. To support the Malaysian industries which are not only growing but being modernised, the needed labour force has to be equipped with modern skills. It has been pointed out by the Minister of Education, Datuk Dr. Sulaiman (1991) that without the educated, skilled and motivated labour force which could take advantage of modern technology, productivity will suffer and the country's ability to compete in a global economy will be undermined.

The above factors justify the need for training the future Malaysian work force, quantitatively as well as qualitatively, to cope with targeted economic development. This is where vocational education and

training programmes appear to be the popular choice. No less important there are also social and political factors that influence the need for vocational education in Malaysia.

2.3.2.3. Based on Social and Political Factors

Malaysia is a multi-racial country with a population estimated at 20.69 million in 1995 of which about 11.95 million Bumiputera (mainly Malay) make up 57.75 percent of the total population. Approximately 5.29 million Chinese and 1.5 million Indians make up 25.57 percent and 7.24 percent respectively, leaving 0.64 percent which consists of others such as Eurasians and foreigners i.e. not citizens.

The biggest challenge in maintaining Malaysian political stability is to ensure racial harmony. Malaysia had a bitter racial conflict experience in 1969. Enormous efforts have been made to restructure the society to ensure that such shameful incidents will not happen again. One of the formulas used has been to try to eliminate the identification of race with economic function and geographical location.

Since the Bumiputera at the moment are the disadvantaged in the economy, it is believed that by giving them the adequate educational opportunities they will be able to take part actively in the economic race. Here again education and training particularly vocational education is expected to play its role towards the achievement of the objectives which ultimately can contribute towards maintaining political stability. This was clearly stated in the Second Malaysia Plan (Government of Malaysia, 1971: 222):

Besides having a strong manpower orientation, education and training programmes will contribute significantly towards promoting national unity. They will play a vital role in increasing the productivity and income of all Malaysians, as well as in the greater urbanisation of the Malays and other indigenous people by facilitating their participation in modern economic activities.

It was stressed again in the Third Malaysia Plan (Government of Malaysia, 1976: 384-385):

Education and training programmes were significantly expanded to increase the supply of skilled manpower among the Malays and other indigenous people to meet the long-term objective of a racially balanced employment structure and for a creation of the viable commercial and industrial community among the Malays and other indigenous people.

An extract of the educational objectives from the Fifth Malaysia Plan (1986 - 1990), representing the fourth and the last segment of the twenty year Outline Perspective Plan (1971 - 1990) for attaining the supreme goal of national unity - reflects the link between education and national development:

The overall objective of education and training is to promote national unity.....the role of education and training in Malaysia is to produce knowledgeable, trained, and skilled individuals to meet manpower requirement as well as growing social needs (Government of Malaysia, 1986: 483).

There, apparently, will not be any change in status with regard to this in the future, as in Vision 2020 the Malaysian Prime Minister, Datuk Sri Dr. Mahathir (1991) stressed that in the development of human resources we cannot afford to neglect half the population i.e. the Bumiputeras. If they are not brought into the mainstream, if their potential is not fully developed, if they are allowed to be a millstone around the national neck, then our progress is going to be retarded.

No nation can achieve full progress with only half its human resources harnessed. What may be considered a burden now, can with the correct attitude and management be the force that lightens our burden and hastens our progress. The Bumiputera must play their part fully in the achievement of the national goal.

The foregoing discussion has focused on the need for vocational education and training in Malaysia for the economic development of the country. Also pointed out are the social and political aspects of the need for such developments in Malaysia.

2.3.2 The Development of the Secondary Vocational School

The establishment of SVS replaced the educational facilities formally provided in the Rural Extension Schools and Secondary Trade Schools. The administration of SVSs is the responsibility of the Technical and Vocational Education Division (TAVED) of the Ministry of Education. This Division was set up in 1964 with the purpose of looking after the trade and technical schools. The first Trade School was established in Kuala Lumpur in 1926. The school provided a three year course for the training of mechanics, electricians, and carpenters at post primary level (TAVED, 1975:15). The development of the Trade Schools was interrupted by the Second World War and the Japanese occupation in 1941.

In 1946 the name was changed to the Junior Technical Trade School. To qualify for admission into this, students must have completed a minimum level of grade five in a Malay school or grade seven from an English medium school (Zakariah, 1988). This admission policy

continued until some of these schools were converted into Technical Institutes in 1956 under the recommendations of the Report of the Education Committee - also known as the Razak Report (MOE, 1956). Meanwhile, the unconverted Junior Technical Trade Schools continued to provide vocational education. The purpose was to raise the level and standard of skilled workers in the expanding public and private sectors (MOE, 1975). As a result of these changes, the Junior Technical Trade Schools were renamed Secondary Trade Schools.

At the same time, the Razak Report also recommended the expansion of secondary vocational education that would incorporate the facilities formerly provided by the Junior Technical Trade Schools. The focus of the expansion was in the rural areas and as a result, Rural Extension Schools were established in 1957. The programme offered a three-year course in Metalwork, Carpentry, Brickwork, Vegetable farming, Poultry farming, Animal Husbandry and Rubber Tapping. The admission requirement for the Rural Extension Schools was the completion of six years of primary education. On completion of their three-year course, the students could apply to continue their studies in the Secondary Trade Schools.

Rural Extension Schools were slowly being phased out by 1967, together with Secondary Trade Schools, which in 1968, becoming known as SVSs (TAVED, 1993). A decision was to establish upper-secondary vocational schools as a means of providing better preparation for job market for those who would not be able to go to more schooling at upper secondary level (Government of Malaysia, 1966). The main function of the newly set-up SVSs is to supply the sector of commerce and industry with the work force equipped with basic skills and knowledge at craftsmanship level (MOE, 1975). The schools offer two-year courses in engineering trades, commerce, home science and agriculture.

Students who have completed their lower secondary education may apply for admission. At the end of the two-year course, students sit for Malaysian Certificate of Vocational Education (MCVE) Examination. Today, the location of SVSs is firmly established within the Malaysian education system (Figure 2-1).

They started with 11 schools and 1262 students. In The Second Malaysia Plan (1971-1975), seven more vocational schools were built, six of them with World Bank loan finance. By 1980 the number of SVSs had become 24, giving places for 11,415 students. Between 1986 to 1990 enrolment was again increased from 15,300 to 24,845. In 1990, students in SVSs formed 7 percent of the total enrolment for upper secondary schools in Malaysia. Up to 1995, 78 SVSs had been built to accommodate about 29,083 students in addition to other training centres like the Industrial Training Institutes, Skills Training Institutes, Youth Training Centres, the Centre for the Instructor and Advanced Skilled Training, etc. which are outside the mainstream of formal education. Increasing numbers of better qualified students have applied and are admitted into SVS. In 1992, students with A grades (from LCE examination) accounted for 66 per cent compared to less than 5 per cent in 1978 for the same age cohort (TAVED, 1993 and Consultants' Report, 1992). Enrolment in 1995 were about 8 percent of total upper secondary enrolment (Government of Malaysia, 1996).

To better meet the manpower needs of the country, the Malaysian education system is undergoing restructuring to shift the focus to science and technology. In line with these developments and other challenges, the Ministry of Education is in the process of a major restructure. The SVSs will be upgraded to technical schools. This is because the enrolment into science stream at the upper secondary

school level has declined from 31 percent in 1986 to 21 percent in 1993, thus contributing to the low output of engineering students. The lack of interest in the science and technical fields may adversely affect Malaysia's strive towards industrialisation. The restructuring of the education system to shift to greater emphasis on science and technology will generate an increased output of skilled manpower in the future. Appendix I outlines the possible career path of skill training for students.

2.3.3 Programmes in The Secondary Vocational Schools

There are two types of vocational education programmes on offer at the SVSs:

- a) General vocational education (also known as vocational stream) with a conventional academic orientation leading to the Malaysian Certificate of Education (Vocational) MCE(V) awarded by Ministry of Education;
- b) Vocational training (also known as skill stream) for the development and certification of particular skills leading to the Malaysian Skill Certificate awarded by National Vocational Training Council (NVTC).

(MOE & EPRD, 1993: 40)

The approach towards vocational education programmes has been general in nature with the intention of providing basic knowledge and skills so that the students are adaptable, flexible and trainable for the world of work. In order to work towards producing the desired manpower, the SVSs are set up to achieve the following objectives:

- a) to provide commercial and industrial sectors with manpower equipped with basic relevant skills and knowledge.
- b) to provide a flexible and broad-based curriculum to meet not only immediate but also future needs and changes in industries.

c) to provide basic education in sciences, mathematics, and language in order to enable the students to adjust themselves to modern work styles and achieve better performances in their future careers.

d) to provide the foundation for skill and knowledge on which to build subsequent education and training

(TAVED, 1994).

Under the present vocational education programme which was introduced in secondary vocational schools in early 1987, students undergoing a particular course follow a common curriculum in Form IV during which they are continually assessed and given guidance counselling. In this year, students are to determine their inclinations, interests and capabilities in the fields which they have chosen. The academic subjects in Form IV are at par with the subjects taken by students in secondary academic schools. However, from 1992, streaming of students either into vocational stream or the skills-training stream, is carried out at the Form IV level. This strategy gives the opportunity for the students to begin their training earlier. Previously, streaming was only undertaken at Form Five level.

Vocational stream students pursue courses with greater emphasis upon academic subjects, while skill stream students pursue courses with more practical work to acquire proficiency in trade skills to industrial standards. Vocational stream students will sit the MCE(V) examinations, while those in the skill stream will sit for the National Vocational Training Council-NVTC (abbreviated MLVK in Malay) examinations. In the skills stream, students are given more time on practical work to provide them with more proficiency in trade skills as required by the industry. Students from the skills stream are also given opportunities to undergo more advanced training at the secondary vocational schools.

Vocational stream students will have opportunities to pursue higher education at the polytechnics or facilitate entry to the labour market, while skill stream students are expected to pursue industrial employment. The reform has, in effect, incorporated a technological education component in the vocational stream with a focus upon the improvement of mathematics and science for those destined for study in the polytechnics and/or entry to the high-skill areas of the economy. Recent developments in vocational education in Malaysia have shown that objectives and issues have to be clearly and explicitly addressed in order to make the programmes more effective and marketable.

Table 2.2: Enrolment in the Vocational Stream and Skill Stream in Secondary Vocational School

YEAR	VOCATIONAL STREAM	SKILL STREAM	TOTAL
1988	17,434	1,412	18,846
1989	19,072	2,512	21,587
1990	22,370	2,475	24,845
1992	24,406	3,333	27,739
1993	24,824	2,937	27,761
1994	24,697	3,120	27,817
1995	25,850	3,233	29,083

Source: EPRD (1994) Ministry of Education, Malaysia

The enrolment of the vocational stream is much larger than the skill stream. This can be seen in Table 2.2. However, due to its complex role of providing general vocational education as well as job specific vocational training under one roof, a review is needed on the

appropriateness and also on the usefulness of the provision in relation to the rest of the education and training system, the economic structure and the nature of the labour market. Abdullah (1993) pointed out that providing the curriculum, qualified staff, workshops and equipment for vocational education at SVSs are far more expensive than general academic schooling.

Most SVS offer a number of courses within certain course groups. The Ministry of Education classified the courses available in SVS under the following groups as seen in Figure 2.2 below. The secondary vocational schools offer a course structure that covers the same core subjects as in other upper secondary academic schools. In addition to these core subjects, the secondary vocational school student selects a group of vocational subjects in accordance with the vocational course they are following. Vocational studies make up about 50 percent of the total course content in the secondary vocational school.

Figure 2.2: Courses Offered in The Malaysian Secondary Vocational Schools

COURSE GROUPS	COURSES
Engineering Trade	Electrical, Electronic, Machine Shop Practice, Welding and Metal Fabrication, Automotive, Building Construction, Air-conditioning and Refrigeration.
Commerce	Office Management, Business Management.
Agriculture	Horticulture and Landscaping, Farm Mechanisation, Farm Management.
Home Science	Catering, Needlework and Tailoring, Beautician, Child care, Bakery and Confectionery.

2.4 Vocational Education as Preparation for the World of Work in the Malaysian Context

Malaysia has built into the formal systems of schooling, alternative pathways for pupils to pursue their careers. In both systems there are possibilities for pupils to follow academic or technical and vocational pathways, depending on their performance in school and public examinations. However, at present, the nature of the educational system favours success in academic subjects over that in technical and vocational. It is commonly recognised that students and parents in Malaysia express aspirations which are orientated towards credentialism, favouring a professional career rather than seeking a vocation in manufacturing, technology, commerce or the service industries.

In Malaysia, after six years of primary schooling and three years of lower secondary school, students are either funnelled into four more years of academic secondary education with the hope of gaining access to university, or proceed, if they wish, to two years' vocational secondary education. From here, they can proceed to a polytechnic provided they have the requisite qualifications. After two or three years they sit for a certificate or diploma in technical or vocational education. It is also possible for students from higher secondary schools to be admitted to polytechnics to take a certificate or diploma or gain entry to a degree course in engineering. The problem, however, is that the preferred pathway is perceived by students, and especially by parents, to be the academic one. There are several reasons for this. First, it has always been thought by most parents and teachers that the ultimate goal should be the award of a university degree, with the status and privilege associated with it (Leong et al, 1990). Second, there are deep-seated values which give a sanctity to the pursuit of academic knowledge. For the ethnic Malays, this is often manifested

in the need to develop further their cultural, aesthetic and religious aspirations. For the Chinese and Indians, scientific knowledge, technology and law are highly prized (Chew et al, 1990). Third, although a growing number of students, teachers and parents are beginning to realise that there are attractive opportunities in computer technology, business, management, and advertising, they still represent a relatively small number.

There has to be a change of attitude towards the world of work, in which jobs in technology, manufacturing and commerce are prized alongside professional careers. According to Thomas (1995) the school system in Malaysia, mainly at the secondary level, does make a start in preparing students for the world of work, and there is clear evidence that the curriculum is becoming responsive to the changing needs of the world of work. There are also clear signs that an adequate diversified curriculum exists, enabling student choice. However, the interface of education and training for employment should be much closer and should be given careful examination, particularly in view of the serious problems of 'mismatch' and lack of suitably trained manpower. The main thrust of educational reforms should be to reduce 'wastage' through minimisation of a mismatch between educational and training outputs and job opportunities and through orientation of educational and training opportunities to the world of work.

Furthermore, the real problems are those of parental attitude and proper information dissemination. Parental attitudes towards a preference for an academic education for their children are still very strong factors (Thomas, 1990). This has a 'knock on' effect on children who then aspire towards a university education (Aziz, et al., 1987; Chew et al, 1990). The lack of up-to-date information on wider job

opportunities for young leavers is, it seems, another factor. The school has a responsibility to provide an effective and efficient level of careers guidance for students, which could act as a springboard for educating parents as well. Furthermore, it is clear that there is an important role for careers guidance in ensuring that the new vocational initiatives work to enhance vocational students' prospects in the labour market without prematurely closing down employment opportunities, and in effect 'life chances', for certain students. The careers guidance provision in the Malaysian educational system is discussed below.

2.5 Careers Guidance and Counselling Service in the Malaysian Education System

Careers guidance and counselling (CGAC) made its first formal appearance in 1967, arising from the Ministry of Education's policy that was made in 1963 which stipulated that all schools, especially at the secondary level, should have their own-career guidance teachers. In 1968, a Service Circular of the Ministry of Education was issued. The circular instructed all heads of schools to appoint guidance teachers who would have a reduced teaching load and be free from co-curricular involvement. Those appointed were expected to devote as much time as possible to guidance. Unfortunately, progress was slow due to various unforeseen circumstances including the shortage of teachers. However, with financial assistance from Unicef, many teachers attended careers guidance courses which marked the beginning of a series of similar course until 1972 when the financial assistance from Unicef was terminated. As more systematic and organised courses were conducted, careers guidance teachers became better informed, better motivated and could provide better services. One would have thought that careers guidance services in schools would have improved by now. Unfortunately, improvements were neither visible nor significant. Through my several years teaching

experience in a SVS, I believed the failure was attributed to various factors, including the perceived lack of understanding and support from the school principals, which was due partly to their ignorance of the programme as well as to the greater emphasis on examinations. The provisions in the service circulars of the Ministry were not fully implemented. Hence, there was some deterioration in guidance services in the schools.

Schools careers teachers guidance are thought to be important bodies who provide advice, guidance and information concerning future career prospects to students. It is considered essential for careers guidance teachers to be sufficiently informed about the national labour market to provide clear advice and guidance to students seeking information about job vacancies, relevant qualifications and skills to meet job requirements, the nature and scope of jobs, as well as the prospects for career advancement. It is fairly generally agreed that the aims of the careers programme in secondary schools can be grouped under four headings as elicited from Avent, (1988:55). These are:

- a) to develop educational awareness through knowledge of the courses available in schools and colleges and an understanding of the relationship between the career choice a student may make and the educational requirements for entry to them;
- b) to provide information on the whole spectrum of possible occupations with an understanding of the difference between the existence of a career (such as ballet dancer) and the limited opportunities for pursuing it; at the same time different types of work and non-work;
- c) to develop self-awareness through understanding of individual abilities and competencies (one's own as well as others'), of interests which may be relevant and the ideals and values which may motivate people to a particular course of action; students should also acquire an appreciation of those qualities of personality and character which

may lead to success in achieving one's educational and career aspirations;

d) to provide practice in decision-making and develop the necessary skills for coping with the transition from school to work, non-work, continued education and the services available to help them; understanding the social and economic background to work and a survival kit for immediate use or to cope with later job changes and re-entry to the workforce after a gap.

According to Harris (1992) there are four ways in which careers teachers are disadvantaged compared to most teachers who are primarily subject teachers in terms of being able to achieve a secure, consistent and high status position in school: firstly, academic subjects such as maths have been high status subjects whereas non-examinable subjects such as career education have been low status subjects; secondly, careers teachers are also disadvantaged compared to other colleagues because they are not part of a traditional department structure; thirdly, in terms of initial qualifications and specialist training, careers teachers are again in a weak position in comparison with other teachers who are graduates usually having better opportunities than non-graduates; lastly, the low status of careers teachers is further reinforced by the absence of a formal system of remuneration for careers activities.

Careers guidance teachers also became the subject of government discussion documents. The need for students to receive good advice and guidance in school was regarded as crucial if education was to fulfil its role in helping to meet the needs of the economy. To ensure that all teachers trained after 1970 have been exposed to guidance and counselling, the Teacher Education Division of the Ministry of Education included in its revised teacher-education curriculum a basic element of guidance. The curriculum has constantly been

reviewed and revised, and presently, guidance and counselling are adequately included to enable newly-trained teachers to understand the basic philosophy and principles of guidance and even to practice them in their daily routine. As far as universities are concerned, guidance and counselling have always been important parts of the teacher-education programme. However, very little was provided to fund training for careers guidance teachers or to increase careers resources in schools.

That careers guidance is an important component of education has rarely been disputed. Any deficiency in the implementation of the programme in schools is probably due to the tussle among priorities. Under the current climate, academic achievement has always been given a top priority. Hence, any programme that is seen to be less directly related to academic work will be given less priority. However, these deficiencies have often been met by voluntary organisations such as the State Vocational Guidance Associations, the Malaysian Vocational Guidance Association, the Rotary Club, the Befrienders and a whole host of other voluntary organisations.

The major drawback is that these organisations tend to be urban-based. As a result, a great majority of the rural students were deprived of such opportunities and benefits. Thus, the rural students are at a disadvantage. It is perhaps timely that a more viable and wholesome strategy be planned and implemented so that both rural and urban adolescents can derive similar benefits.

Occupational choice, and hence careers guidance schemes, should be individual-oriented to the maximum extent possible. Guidance techniques whereby the individual's abilities and aptitudes are 'bent'

to suit market requirements should be viewed with suspicion; especially in that, often, careers guidance teachers do not advise students how to further develop their individual abilities; they only advise them on how to adjust optimally to labour market conditions. Furthermore, careers guidance should be free from social prejudices.

Another major issue is the involvement of parents. The influence they have on the choices their children make has never been in doubt. But do careers teachers have the knowledge, opportunities and time to increase the involvement of parents in the curriculum? Schools should put more effort into involving parents in careers guidance. This implies that schools need to develop greater skills in helping parents guide their children more effectively. But do careers guidance educators possess the knowledge to help schools develop practicable ways of doing this?

Unfortunately, according to Mohd. Noor (1987) Malaysian youth have a very limited knowledge of the jobs available in the country. Most of them are only aware of prestigious jobs and very few can name more than 20 different occupations. This lack of information is also highlighted in local studies (Yip, 1975; Reutens 1977; Amir @ Khamis, 1981; Lee, 1986; Goon, 1985 and Rahimah, 1983).

The desire for prestigious jobs is further reinforced by the schools. In their efforts to motivate students to strive hard to achieve success in life, teachers tend to invite professionals such as doctors, lawyers, architects, accountants and engineers to give talks to the students. Occasionally, university lecturers and members of the armed forces are invited. Such programmes can only strengthen students' desire to attend university because all professional jobs require a university

education or its equivalent. Since they are not exposed to other types of job, their knowledge is limited to only a few prestigious occupations. Careers guidance in Malaysian schools has been rather slow to adjust to the changing balance of in and out of school education. The activities place too much emphasis on guidance and counselling, too little on placement and not enough recognition that this is a world in which a young person will take any job or opportunity he or she can get.

The characteristics of careers guidance in school can also influence the prospects for student employment. It is suggested that close interaction between careers guidance teachers, school headteachers and employers is beneficial to facilitate better links between the three groups concerning the labour market situation, the trends for student employment, and the implications for academic course content and structure. An open communication channel through career fairs, workshops and career visits by employers may provide students with the necessary career information to improve the efficiency of their job placements and provide the security of gainful employment.

Since the Guidance Unit of the Ministry of Education has been placed within the School Division of the Ministry, the training and implementation programmes have improved. Today, the careers guidance and counselling teachers are responsible for the careers programmes in school as well as being responsible for organising and delivering careers information to students and, in most schools, in charge of organising industrial visit programmes. The careers guidance will often have contact with outside bodies such as industries and firms, and will arrange speakers to come into school to address students. The careers guidance teacher is available to students for help with any problems relating to their career plans or

even with more general problems. The precise role of the careers guidance teacher varies from school to school depending on the resources available for careers activities, the organising structure of the careers programme, and the commitment and interest of careers guidance teachers.

Although careers guidance services were introduced into the Malaysian education system some eighteen years ago, the amount of research pertaining to careers guidance is relatively small. Most of it constitutes dissertations for Bachelor of Education and Master of Education degrees. Other available research in the same area comes from the academic exercises or projects in the Diploma of Counselling students from the National University.

The available research is not only limited in number but also in scope. The findings do confirm several hunches or assumptions as well as shedding some light on various aspects of guidance and counselling which are useful as far as the guidance teacher is concerned. Obviously, career guidance is not that narrow in scope. New areas need to be explored to provide better understanding and better strategies for effective careers guidance services. So, hopefully, the new style transition from education to employment will not prematurely close down youngsters' career options. But in this respect one particular concern is the absence of an integrative theoretical framework within which to understand the way choices are shaped over time, often involving not only 'official' career specialists but a wide range of 'informal advisers'. There remains a gap between theory and practice.

2.6 Conclusion

This Chapter provides some basic information considered to be the background to this study. It starts with the formal system of education and focuses on the need for vocational education in Malaysia. Investment in vocational education, is increasingly perceived as important to develop a skilled workforce which can better utilise and exploit technological advancement. Economic as well as social and political factors are discussed. From there the focus moves to the form of educational programmes developed in fulfilling the need. Finally, vocational education as preparation for the world of work and the career guidance service in the Malaysian education system is discussed. In the next Chapter, the manpower and educational planning will be discussed.

CHAPTER THREE

MANPOWER AND EDUCATIONAL PLANNING: A REVIEW OF THE LITERATURE

3.1 Introduction

This chapter provides a brief overview of the literature used in the study. To ensure adequate coverage of the research question, two areas of literature were selected for a review: education, manpower and development - a theoretical framework, and education and manpower development within the Malaysian context.

3.2 Education and Manpower Development: a Theoretical Framework

This section attempts to explore the significant connections between education, economic development and manpower planning. Planners and policy-makers in the developing countries tend to use manpower needs and educational planning, despite the theoretical, statistical and economic shortcomings.

3.2.1 The Concept of Human Capital and Human Resource Development

Industrial development has been the main goal of most developing countries since the turn of the century. This model of development focuses on economic growth with an emphasis on the growth of the industrial sector. According to Irizarry (1980), this model of development is based on the establishment of an autonomous industrial sector to process raw materials and to manufacture capital

goods; that is, machinery and equipment needed for the expansion and modernisation of other manufacturing sectors as well as mining and agriculture. Complementary production activities in agriculture, mining, and manufacture must also be established to produce the raw materials or processed goods that are needed by others. In other words, the establishment of industrial production plants would induce additional activity in other sectors to complement overall construction and production.

Over time, according to this model, the economy will expand and diversify its agricultural and industrial production, thereby creating employment opportunities, higher wages and consumer products to foster a better standard of living. As the modern sector expands and spreads throughout all sectors of the economy, it would ultimately incorporate the more traditional rural sectors, and thereby provide more productive and higher income activities to the poor such as the farmers, smallholders, tenants and the landless.

It has been recognised that education and training can play a central role in raising the earnings, increasing the job prospects, changing the lives of individuals; yet only in the last thirty years have these considerations been formally integrated into the body of mainstream economics. This model views the role of education as an investment in human capital for achieving social and economic progress. Education is to provide the skills required for the industrial economy and for the development of technology. Schultz (1963) argues that since schooling increases the future earnings of a student and the productive capacity of labour, it should be considered as an investment in human capital. Today, the setting up of technical and vocational schools represent the most fundamental effort on the part of the Government to link education to the needs of the economy. This refers to a view of

education as an industry which generates the desired amounts of functional manpower. Knowledge is considered by some economists, such as Drucker (1993), and Weisbrod and Schultz in Sultana (1994), as the only real capital in modern times, and hence, the development of educated people - in vocational and general terms - is the most important capital formulation.

The assumptions are clear that education will produce an increase in general and in job-specific knowledge which individuals subsequently can apply in an expanding economy both to better utilise new technical developments and to generate innovations. The results will be a marked payoff in terms of increased production yielding greater national wealth and individual wages (Violas, 1981). Other related assumptions are that individuals choose to invest in education and are rewarded accordingly in the labour market; the skills, attitudes and competencies acquired in education are transferable to the workplace, and the increasing complexity of the workplace and technology requires a higher level of skill in all workers (Blackmore, 1990).

Looking at several countries, notably the United States, Schultz (1963) presents three reasons why economic growth can best be explained by enlarging the concept of capital formation to include human rather than more physical factors. First, he gives the United States as an example of a country whose economic growth is the result of investment not only in physical capital, but equally in education, which has contributed to human capital formation. Secondly, he says that the wage structure and salaries operating in many countries can be explained by the educational requirements for the occupations. Thirdly, Schultz alleges that the decline in inequality of personal

income is not only transfer of payment, but is related to the attainment of education.

Harbison (1973) speaks about the importance of human resources development as the energies, skills, talents, and knowledge that are applied to the production of goods or rendering of services in an economy. A human resource approach gives priority to maximising skills and knowledge through training followed by the effective utilisation of that investment through the creation of jobs. The results of such steps are an increase in economic growth, enhanced living standards, and more equitable distribution of income.

According to La Belle (1986), the human capital model views the role of education as not only one of socialising the individual to participate in the nation's political, economic, and cultural institutions, but also to provide skills necessary to manage the various aspect of an industrial economy and to facilitate its growth through the use of modern technology. In sum, education, whether formal or nonformal, is seen as an investment that would pay dividends through increased skills and knowledge for industrial development and social progress. Schools also inculcate pupils with discipline, attitude, and motivation to meet the demands of industrialisation.

In Malaysia, it has been tempting for the governments to assume that economic development cannot come about unless there is a highly and appropriately skilled work force, and that one of the ways of achieving that goal is to have a diversified educational system which provides technical and vocational education (Thomas, 1994).

The irresistible logic that underlies the argument that the school system in developing countries should be vocationalised in order to increase its relevance to the needs of a modernising economy was challenged in the late sixties when the high expectations regarding the relationship between investment in human capital and economic growth were disappointed by negative results. However, because of its inherently logical and simplistic appeal, vocationalism will be with us for years to come, and more countries will attempt, in vain, to tune their formal educational systems to the world of work (Psacharopoulos, 1987a).

3.2.2 Theories of Manpower Planning

Theories of manpower planning are generally based on techniques of projection of the demand and supply of human resources in the economy (Hollister, 1983). However, inherent internal and external socio-economic and political factors have affected the labour market mechanism (Hopkins, 1988). Complex labour market interactions have made the process of manpower planning almost impossible. Major evaluations of manpower forecasting (Ahmad and Blaug, 1973; Debeauvais and Psacharopoulos, 1985) have found no clear evidence associating human resource projection to concrete decision making and policy implications on educational investment. Faults lie primarily in flawed assumptions on labour productivity and the long time horizons involved in projection exercise.

The purpose of making manpower forecasts is to ensure that supplies of manpower are available when new requirements arise. As a result, manpower shortages and surpluses can be avoided and output increased. An immediate question is why manpower demand and

supply cannot simply be left to market mechanisms to be brought into equilibrium. Neo-classical economics suggest that any shortage of a particular type of manpower is only temporary. The immediate impact is increased wages. When this occurs, demand will fall as employers substitute other types of labour or other factors of production and a new short-run equilibrium will be reached. The process of adjustment will continue until the particular labour market is once again in long-term equilibrium. Advocates of manpower forecasting argue that such assumptions are false.

Manpower forecasting has proven problematic and inaccurate. If anything, educational planning, which takes considerable time to respond to labour market changes partly due to bureaucratisation, is even more problematical (Smithers and Paker, 1988). Labour market signals are generally shown to manifest themselves (Lindley, 1981). These difficulties have conspired against attempts to determine the 'optimal' level of educational investment to ensure a sufficient skills base in the economy. Problems of labour shortages can occur due to a number of reasons including a poor interface between the labour market and educational planning. Problems associated with skills deficiencies can duly affect economic performance as highlighted in the next section.

3.2.3 Skills Shortages

Skills shortage is an ambiguous term, primarily due to its volatility (Green and Steedman, 1993). Skills shortages can be generally understood as a situation:

when there are not enough people available with the skills needed to do the job that need to be done. There will always be some mismatch between skill supply and

demand, as demand shifts with technical development, new products emerging, new firms being set up, and new entrants joining the labour force. Gaining new skills takes time, so supply cannot respond immediately to changing demand (Employment Department, 1992, p2).

The literature has identified detrimental effects of skills shortages on long-term national economic performance (Mason, 1986; Dolton, 1992). The competitive performance of Germany and Japan has been attributed partially to high labour productivity from a superior level of vocational skills base and effective on-the-job training (Eltis et al, 1992). Comparative studies of skills structure and manufacturing productivity in leading industrialised countries, such as Japan, Germany, the UK and the USA (Carr, 1992; O'Mahony, 1992), have highlighted the importance of a higher-level education and a continuous process of employee training to improve industrial productivity.

Studies of skills shortages in the UK (Mason, 1986; NEDO, 1989; IFF Research, 1991) have revealed difficult-to-fill vacancies in many high-skilled, engineering and technical-related occupations in key economic sectors. This may be partially due to the comparatively low participation rate of the 16 to 18 year-olds in full-time education and training (Smithers and Robinson, 1989; Layard et al, 1992). According to Smithers and Robinson, (1989) one of the single most consistent messages from industry is that Britain does not educate enough people to a high enough level and this message should feature as a major priority. Again, the main problems facing a potential labour supply of skilled personnel are: the low proportion of students following technical and vocational courses, the low proportion of university students following engineering and science subjects, and the general lack of interest in apprenticeship schemes by employers and students alike (Coopers & Lybrand, Europe, 1991: 95; Sultana,

1992). These propensities have resulted in skill shortages that have been attributed to the absence of an industrial tradition and culture in developing countries. Skill shortages are considered the single most important obstacle in the transition of developing country's economy in general - and industry in particular - towards higher productivity levels and local wealth generation.

Studies undertaken to identify student intentions to enter higher education in the UK (Redpath and Harvey, 1987; Pearson et al, 1989) have found a generally low level of interest amongst students to pursue science and engineering degree subjects. Moreover, there is a general bias that students with a better socio-economic background are more likely to enter higher education. The realisation that skills shortages may affect economic competitiveness has partially led to policies of increasing participation in higher education amongst women, mature students and minority groups in the UK (White Paper, 1987; Pearson et al, 1989; Smithers and Robinson, 1989).

Skills shortages in low-income countries, conversely, have generally resulted from the 'brain drain' to better job opportunities in developed countries (Hogendorn, 1992). Substantial losses in education cost and indigenous expertise may impede national development, but attempts to remedy the 'brain drain' from these countries have not yet been successful.

Like many of the countries of the Pacific Rim, Malaysia has chronic manpower shortages in most sectors of its economy and this is particularly serious in skilled and highly skilled jobs. It is evident from what has been discussed earlier that this country has embarked upon ambitious plans in the education and training of their school leavers

to meet this challenge. It is clear that unpredictable economic parameters have conspired against the labour market mechanisms to correspond more efficiently to educational investment; in this case, of technical and vocational education. Malaysia has borrowed ideas from North America, Western Europe and Japan relating to industrial training and the application of management and organisational principles to improve the quality of technical and vocational education. It must be recognised that these measures are necessary in the context of growth, but the problems arise when economic growth rates level off, resembling the less ebullient rates of developed countries, with the consequence that employment levels may have to be reduced.

While this situation may be some way off, it is necessary that curriculum planning should take a futuristic view, not only introducing new content areas and discarding unnecessary topics, but also engaging in a thorough analysis of general skills identification and their potential for transferability across tasks. By identifying clusters of general and essential skills and having a knowledge about their transferability across tasks, the workforce would have the potential to adapt when the nature and availability of work changes.

Complex relationships between education and employment have generated considerable debate on what employers actually want from schools (Hawe, 1990). Schools have been criticised for failing to meet the expectations of employers or industry. Studies which have attempted to identify what can be taken as 'needs' or 'expectations' of employers have been described as vague and imprecise. Oxenham (1987) has summarised employers' expectations as self-discipline, right attitudes to work, time-keeping and willingness to accept change, rather than having specific qualifications. But these are

studies that have been largely conducted in developed countries where employers' expectations could be significantly different from employers in developing countries where skilled labour has been known to be in demand.

An alternative view is that the economic growth is compatible with a fairly wide range of manpower structures and presumably, therefore, with a variety of educational decisions. However, studies conducted by Boddy, Rees and Snape, (1995) with regard to particular skills, show that employers want to know more about specialist skill areas such as information technology, specific types of engineers, and particular professionals. There is also a desire to develop greater links with professional associations and other organisations that might help to provide information about the work histories of people in specialist skill areas. This is especially with a view to projecting and potentially influencing future labour supply.

Debates on the quantity, quality and efficiency of educational provision to provide a sufficient skill base have continued in many countries (Haddad et al, 1990; UNESCO, 1991; Yorke, 1992). Nonetheless, like many studies examining the education-growth relationship, empirical evidence on the 'quality' of education and the effect on student achievement have been inconclusive. This has been primarily due to methodological difficulties in measuring the units of production, inputs, processes and outputs of education at both macro and micro levels. Consider, for instance, measures for units of production, such as student, class or institution; educational inputs, such as material, financial, and staffing; educational process, such management and academic activities; and educational output, such as publications, achievement and earnings (Haddad et al, 1990). Further research is necessary to measure learning outcomes arising from

improved educational quality, scientific innovation and creative management (Lewin et al, 1983; Haddad et al, 1990)

3.2.4 Education and the Labour Market

Theories of the segmented labour market suggest that education is not a true measure of productivity, partially due to imperfect labour markets with artificial barriers to entry (Field, 1991). Theories of manpower planning further highlight the fact that investment in education, intended to meet projected manpower needs in the economy, has generally been unsuccessful in many countries, partially due to methodological weakness and unpredictable economic circumstances (Ahmad and Blaug, 1973; Debeauvais and Psacharopoulos, 1985; Hopkins, 1988). However, according to Blaug, 1980; Asayeghu, 1982; OECD, 1985; Psacharopoulos, 1986; Sanyal, 1987 the interactions between education and employment are fundamental to economic development, but poorly understood. Education and employment linkage usually leads to higher GDP growth and increased quality of life (UNESCO, 1991). Human Capital theories propose that more education leads to higher productivity through higher-paid jobs.

Nonetheless, issues on educational-employment linkages have generated considerable debate in recent years due to extensive problems of skills shortages in key sectors in the economy. One of the main reasons is that large numbers of vocational and technical graduates take up main jobs unrelated to their training (Sultana, 1994). A part of the co-operation between schools and industry to improve the quality of education is the provision of career and labour market information. Careers guidance and labour market information

can be crucial for students making future career decisions. Reliable, consistent and up-to-date information on the state of skills supply and demands in the labour market can facilitate the provision of appropriate careers guidance for students. Furthermore, Boys, et al., (1988) have identified that the sharing of labour market information between schools and industry can facilitate the transition from education to employment more easily. Again, better interaction between schools and industry may well provide mutual benefits, in terms of the production and better utilisation of a highly qualified workforce.

3.2.5 The Manpower Needs Approach to Educational Planning

Manpower needs approach is not the only approach used in educational planning. There are a number of bases for educational planning. According to Psacharopoulos et al. (1983:134) some of the approaches to educational planning are based on:

- (a) Social equity demand. Equity rationales focus on increasing the access of particular regional or ethnic groups to educational opportunities.
- (b) Nation-building demand. It is the role of education to develop a shared national identity, especially in multi-racial country.
- (c) Demand of increased educational quality. Within this category, education is planned to gear curricula towards more national concerns, have local control over examinations, upgrade teachers, improve school resources, and increase the research and planning capacity of the Ministry of Education.
- (d) Demand for improved efficiency. Education plans to focus improvement on the use of existing resources, to reduce wastage, and to increase the number of graduates from the education system.

The manpower approach to educational planning does not attempt to deal directly with the problem of defining or measuring educational

output. It is concerned simply with one aspect of educational output, the skills, talents, aptitudes and attitudes with which education can provide the future working population. Since one of the functions of an educational system in society is to provide its work force with the abilities required for productive activity, it follows that the system must be reasonably well geared to the production requirements of the economy. Future patterns of requirements must guide today's educational decisions because producing qualified manpower is exceptionally long.

The manpower needs forecasting model as usually practised has four steps; first, overall economic output is estimated for a given time period; second, the output is allocated across industry sectors, and the labour requirements to produce this output are estimated; third, the labour requirements are translated into educational requirements, assuming each job corresponds with a specific occupational level and type of education; and, fourth, the forecast of educational requirements is compared with the stock of educated labour, adjusted for attrition and new entrants, to estimate the need to expand or contract the education system. Here education is planned to supply skill requirements once production targets have been decided upon. The criticisms of the model relate to its assumption of a fixed relationship between labour and the quantity of goods produced and between labour productivity and the level of education. In practice, the relationship between labour and the quantity of goods produced is not fixed. Goods and services can be produced with more or less labour and with labour of different kinds as dictated by economic conditions and the relative prices of labour and capital. Manpower need ratios do change in response to economic circumstances. The mechanical use of these need ratios in manpower forecasting ignores the potential and incentives for the substitution of expensive labour or capital and can lead to erroneous estimation of labour requirements.

The conversion of labour requirement by occupation into educational requirements is inconsistent with experience. Reverse trace studies for occupations show the diverse paths by which people arrive in occupations (Ziderman and Robin 1992). Formal education serves as the principal entry point for only a small number of occupations. People perform the same jobs with various levels and types of education and training. Thus, expanding formal education programmes is only one of many ways to meet predicted skill shortages. Except in occupations with well-defined education requirements, the manpower requirements model can lead to over investments in formal education in response to projected skill shortages. Employers are often able to respond to skill shortages by finding more cost effective means to increase the supply of skills. In many case, these effort bypass lengthly formal education, reducing the need for large public investment in schools and training centres.

Nevertheless, many developing countries like Malaysia still continues to use the technique. Despite abundant evidence of the technique's failure to forecast accurately the need for skills training, I believe that the technique has remained popular for a number of reasons. The methodology is transparent and appeals to common sense. The technique is straightforward, its data requirements and assumptions easily grasped. The concept that economic growth creates a demand for skilled labour that can be balanced with the supply of this labour is intuitively logical on the surface. People like precise numbers produced and the appearance of certainty over uncertainty. Moreover, the political process in most developing countries pays little attention to yesterday's decision and errors.

The main assumptions that underlie the manpower needs approach to educational planning are summarised by Windham (1975:190):

(a) The economic system is dependent upon the educational system to provide manpower with the education and training necessary to promote economic growth.

(b) Low substitutability between skills and education exists and therefore specific education-occupation paths may be determined.

(c) Increases in the demand for forms of educated manpower may be predicted on the basis of predictions of output changes, this is done via the further assumption that the future employment-output ratios are themselves predictable.

Education is concerned with values and goals which are as important to nation building as occupational skills. Manpower planning consists essentially of preventing serious demand-supply imbalances in the economy. The analysis of future labour demand is one of the important keys to the planning of educational programmes. Their common ground is the role of education in the formation of occupational skills. But both fields have large contributions for development, independent of their common ground. As manpower planning provides a framework for disciplined judgement, the education planner can utilise it to make the forecasting of manpower needs more meaningful. Manpower planning is a simple and practical method, although at times imprecise and even inaccurate in its results.

Sultana (1992) has argued that for the past quarter of a century, evidence from a number of countries has generally discredited attempts at manpower planning and forecasting. According to him, among the reasons that are usually given for the difficulties facing such an exercise are (a) the greater frequency and speed of change in the technology/employment area than in the education/training area (b) the assumption that persons trained in a given occupation will seek that particular employment (c) the unreasonable assumption of

zero labour substitution (d) the narrow focus on wage employment in the formal sector to the exclusion of all other forms of economic activity (e) the focus on growth to the exclusion of equity and social demand (f) the discrepancies between the actual rates of economic growth and the assumed ones upon which the manpower forecasts are based (g) the neglect of occupational mobility (h) the assumption that particular levels of economic development are reached through specific patterns of educational/occupational structure:

So, manpower planning cannot be divorced from socio-economic and educational objectives. Its essence of planning is the translation of such public goals into human resource terms. Thus manpower planning is related to the whole frame of human behaviour and the fabric of society. For manpower planning to have any relevance for educational planning, much more knowledge needs to be gleaned from occupational-educational relationships. This is where students' input comes in. They are the potential labour market users. It is the overall intention of this study to examine the relationship between what is being planned and students' occupational expectations.

3.2.6 Manpower Needs Approach and Educational Planning Problems

Several approaches have been adopted for manpower planning to assess and monitor training needs. Some of the better known, conventional manpower planning tools are: the manpower needs approach, rate of return analysis, and employment survey method. The manpower needs approach attempts to relate economic growth to the required educational and training output through the application of labour coefficients to the growth targets. However, this study recognises that manpower needs approach to educational planning

has received much criticism, particularly from the advocates of rate of return or cost-benefit analysis.

The manpower needs approach to educational planning does not attempt to deal directly with the problem of defining or measuring educational output. It is concerned simply with one aspect of educational output; the skill, talents, aptitudes and attitudes with which education can provide the future working population. It is, therefore, crucial and critical to make competent manpower projections to facilitate manpower planning to assess and monitor training needs for effective Human Resource Development (HRD) - driven growth strategy.

In the past it has been essentially a matter of attempting to estimate the number of employment opportunities available for various categories of qualified manpower. Thus forecasts are made of the necessary output of doctors, teachers, engineers, and so on. Sophisticated methodologies have been developed for relating the apparent needs expenditure on education. It cannot be claimed that these attempts have been successful in Organisation for Economic Co-operation and Development (OECD) countries, and even in Eastern Europe where manpower planning has been much more widely used there is evidence of mismatching between requirements and output. Employers have frequently expressed criticisms, not so much with respect to the number of engineers, scientists and other qualified manpower being produced, but rather about the quality of output.

Much of the criticisms on the generation and usage of manpower projections could have been averted if one bears in mind that forecasts of manpower demand only serve as the beginning of a planning process. No projections can be definitive, whether they are best estimates or a range of forecasts. Aziz et al. (1987) note that a

major shortcoming of manpower and educational planning is that projections cover too long a period of time, i.e. the longer the time frame, the greater the risk that unanticipated actions and events will undermine the assumptions on which the projection was based. This, in turn, may or often does produce significant mismatches between the numbers and levels of graduates suggested by the projection and the actual manpower requirements of the economy. It is impossible to forecast the number of graduates from various types and levels of schools to fit employment demand. There is no one-to-one correspondence between the number of graduates and employment demands, since it requires a long lead time to produce graduates. It is also difficult to foresee long-term economic growth and labour demand. In addition, labour productivity coefficients used to fit graduates to certain occupations are subject to massive errors, due to rapid social, economic and technological changes. He also stresses that manpower forecasts are really not very useful because in reaching decisions, policy makers ultimately must take into account overpowering political and social pressures. In other words, educational goals and policies can be implemented only if they appear politically attractive to powerful politicians and interest groups.

Hollister (1983) argues that a long-term projection of manpower supply and demand on the basis of general economy-wide planning methods is not likely to be a very fruitful exercise for a developing country. Estimating future economic growth is an exceptionally difficult task in which economists have so far had not much success. However, in many developing countries this is precisely the activity that has taken up most of the time and resources of manpower planning groups.

Education is also likely to be more efficient if manpower and economic planning activities are more fully aligned. An integrated planning

process can be difficult to achieve when the economic planners are located in one ministry and the manpower planners in another. Several countries offer examples of how this integration might be achieved. In Singapore, for example, responsibility for planning and promotion of industrial development is combined with responsibility for skills training in the Economic Development Board (Eng and Salome 1986). In Costa Rica, the National Training Institute is closely linked with the Ministry of National Planning, with it co-ordinates its policies, and on which it depends to a great degree for approval of its investment projects (World Bank 1991b). A proposed skills training policy for Mauritius would place responsibility for training, economic planning, and policy development in the office of the prime minister.

The manpower needs approach neglects the importance of the investment and returns, and assumes there is a definite number of people in each occupation. It does not allow for the effects of substitution between different types of labour. Psacharopoulos and Woodhall, (1985:84) conclude that:

(a) the concept of fixed manpower-output coefficients is misleading, and experience suggest that substitutability of manpower may be highly significant; (b) the idea that there is a rigid relationship between occupation and education is the weakest link in the manpower requirements approach; (c) technological change is difficult to predict, but is very important in determining the occupational distribution of the labour force; and (d) single-valued forecasts that make no attempt to measure the effect of alternative assumptions may be misleading for educational policy, which should be flexible enough to allow for uncertainties about the rate of technical progress and the link between formal education and the skills of workers.

Psacharopoulos (1987b) sums up the major defects of the approach: The first defect is that it assumes a rigid relationship between education and the economy. Many recent studies coming under the

name of 'elasticities of substitution' have shown that an economy can grow equally well with a different skill-mix than the one observed in the past. The second defect is that the manpower needs approach typically ignores the costs of producing the extra amount of skills. Finally, another defect of the manpower needs approach is that it is typically wrong in producing the number of qualified persons for the target year of the plan. The order of the errors is not insignificant as in some cases it exceeds a hundred percent.

Furthermore, the oversight of the aspirations of the individuals in manpower planning constitutes another weakness which has far-reaching social implications. The manpower approach implies that individuals acquire an education or a skill only for the purpose of producing input for industry. This study argues that this is not always the case. Often, individuals do acquire formal or non-formal training in order to develop cultural as well as economic versatility and adaptability. They therefore may choose jobs or careers different from those implied in manpower plans.

Finally, Amjad (1987) stresses that the greatest barrier to effective manpower and educational planning is data inadequacy. Statistics on occupations by education attainment, which are vital in operational manpower planning are seldom available. Trends in the changes of occupational structures and of the educational content of occupations are difficult to establish because of the absence of time-series data or even of adequate data bases. Although manpower planning, particularly its long-term forecasting ability, has for some time been severely criticised, very few authors hold the view that long-term manpower forecasting is completely useless and should be abandoned. The majority of views ranged from limited usefulness to serving as one of the bases for the elaboration of long-term educational strategies (ILO, 1978).

3.2.7 Desired Approaches for Manpower Needs and Educational Planning

Manpower planning admittedly suffers from methodological and practical shortcomings. However, we cannot do away with it because it serves as an analytical basis for long-range educational planning. The need to move away from simplistic manpower forecasting in assessing the future manpower needs of the economy is being realised in most countries (Amjad, 1987). The importance of manpower analysis and the need to understand how labour markets function is now widely accepted (Aziz et al., 1987).

Aziz and his colleagues (1987) emphasises that the approaches used for manpower and educational planning needs to be re-evaluated in order to find more effective approaches to manpower and educational planning. He further suggests that more analysis is needed to provide up-to-date information essential to planning, such as analysis of the operation of labour markets, the function of education and the efficiency of central planning groups and relevant agencies.

Raza (1985) posits that educational planning can become meaningful only if the context of society is taken into consideration with a view to ensuring that desired social structures are being recognised and attained and values considered desirable are being respected and developed. According to Coombs (1971), educational planning should: (a) view the educational system as a whole (b) be integrated with economic and social development planning, and (c) look well beyond the pure quantitative dimensions of educational development.

In sum, in order for manpower and educational planning to be more effective, the approaches used must be modified to include adequate

and appropriate education and timely information about the labour market conditions for the matching of youths' occupational desires with labour market needs.

3.3 Education and Manpower Development within the Malaysian Context

Since this study examines manpower needs and students' expected occupations within the Malaysian context, there is a need to review the local scenario. This section mainly highlights the manpower needs approach in Malaysia as an example of a developing country which still uses such an approach and describes the educational system, planning and policies and linkages with manpower planning. Lately, educational planning in Malaysia has become multi-disciplinary. Manpower projections at a national level are still being used in planning for social and economic growth.

3.3.1 Education for Development

Investment in education, the crux of human capital theories, has been widely accepted as a key to achieving a more competitive economy through the development of better-educated and more productive manpower (World Bank, 1980). Ample literature has emphasised the role of education, particularly at a skill level, in developing a sufficient highly-skilled workforce to improve economic competitiveness.

Optimum quantity, quality and efficiency of education have been central to educational debate in the past decades (Hallak, 1990). Recent literature suggests that vocational-oriented, higher-level education can be a sound investment for some countries, given the

rapid rate of technological development in the world economy (Pearson et al, 1989; White Paper, 1987). This educational view may be substantiated in some developing countries.

The educational structure in many developing nations like Malaysia generally bears a resemblance to their colonial pasts. Until recently, the orientation of academic curricula and course content in these countries has been generally inconsistent with their manpower needs; there has been more emphasis on liberal education and humanities rather than on scientific and technical subjects (Hogendorn, 1992). However, recent educational reform which features an integration of liberal and vocational education (Hodkinson and Issitt, 1995) highlights the current views of the importance of linking education with the world of work. This perspective of a combination academic and vocational education may well be incorporated into the educational system in Malaysia as a means to develop a more productive workforce.

In any case, the premise that higher-skilled education is the critical factor for economic development has remained pervasive in both the developed and developing countries. The development of sufficient quantities of 'skilled' vocational graduate workers is therefore essential to support industrial progress. The role of vocational graduate workers in the pursuit of manpower needs is the key issue examined in this study.

The fundamental link between education and manpower needs merits a brief review on manpower planning and development activities in Malaysia. Educational planning and manpower projections are

important measures undertaken to adjust the supply and demand of labour in a growing economy.

3.3.2 Manpower Planning and Development

Education can be regarded as a process of the development of a skilled workforce to meet the requirements of employing organisations at various occupations and skill levels, to maximise the degree of productive employment in the economy (MAMPU, 1982). This process can be associated with manpower planning which is understood as an exercise to adjust the existing and future supply and demand for manpower at various skill levels (Debeauvais and Psacharopoulos, 1985).

Manpower planning and development in Malaysia is undertaken at the ministerial level by four key departments (MAMPU, 1982: 55).

These are:

- (a) The Economic Planning Unit which undertakes manpower planning at a macro level.
- (2) The Public Service Department which oversees manpower management in the public sector through the provision of scholarships and training subsidies to rectify crucial skills shortages.
- (3) The Ministry of Education (through the Educational planning, Research and Development Unit) which administers the development and implementation of educational policies.
- (4) The Malaysian Manpower Administration and Planning - occupational projection by sector.

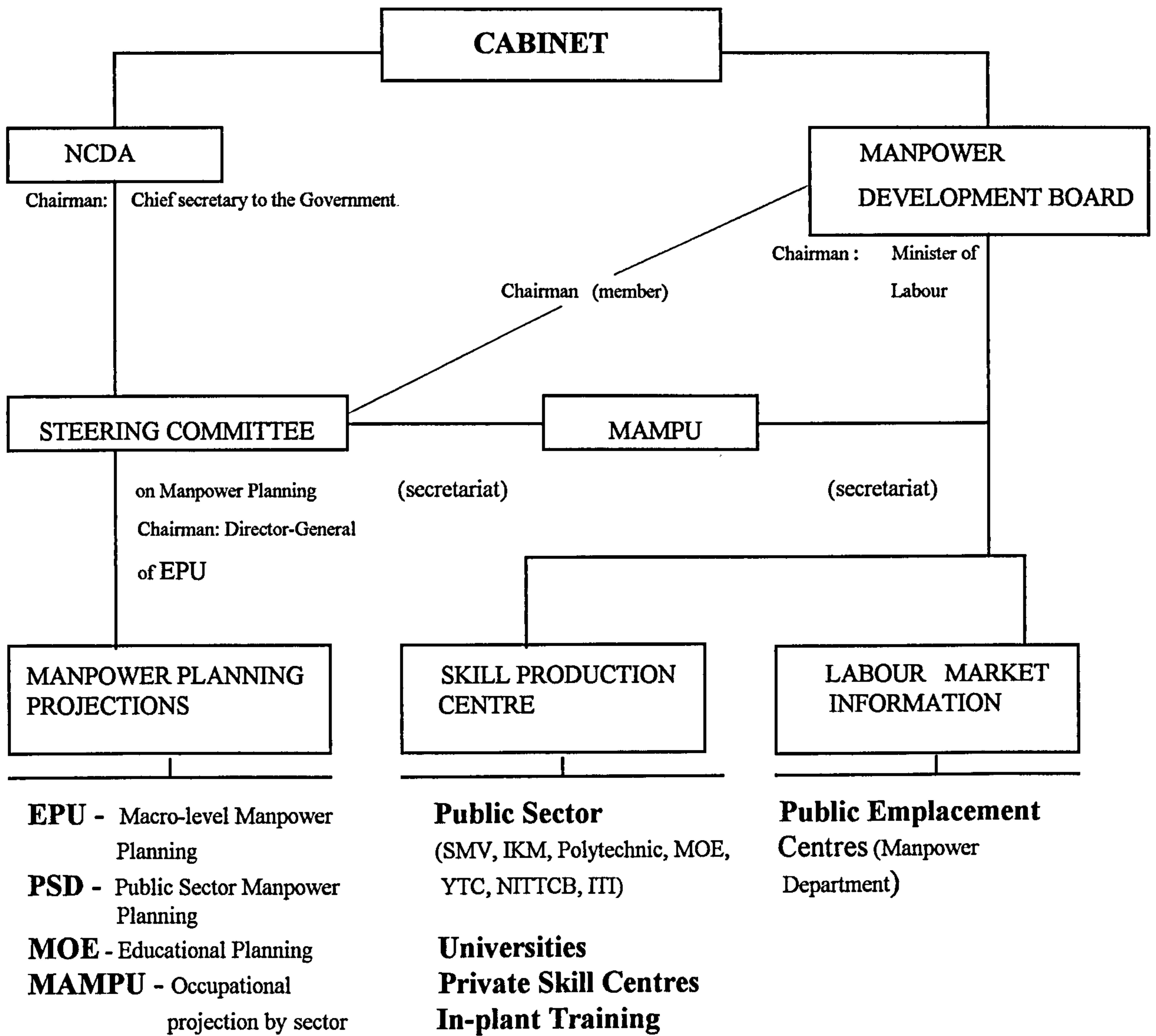
Manpower planning activities are undertaken both at the macro (national) and micro (departmental) levels. A similar distinction exists with regards to the federal level and the individual state levels. At the

national level, macro manpower planning is executed by the Economic Planning Unit (EPU) in the Prime Minister's Department. This is so basically for the three following reasons:

- (1) Manpower planning without investment planning is meaningless and the two have necessarily to go hand in hand.
- (2) It would be difficult to improve the techniques of manpower planning without information on production requirements or trends in economic development.
- (3) Manpower planning in the private sector can only be undertaken if the framework is provided by the government in terms of overall supply and demand. The EPU will be able to relate such a framework to the private sector and to incorporate the necessary feedback. In the public sector, micro planning (at the departmental level) can only be meaningfully done by the management of the organisations concerned. The Public Service Department (PSD) and MAMPU can assist if the departments cannot undertake successfully these planning functions. The implementation of national development plans depends to a large extent on the efficiency of departmental plans. In terms of the co-ordinating role entrusted to MAMPU, it will translate national plans into operational guidelines for departmental plans, provide a framework for micro-planning in terms of techniques and information, monitor planning processes, review departmental plans and co-ordinate the different plans to provide the EPU with an operational feedback.

Figure 3.1 shows the organisational framework and linkages of manpower framework and development in Malaysia. For the purpose of bringing about the proper co-ordination of manpower planning activities, a Steering Committee on Manpower Planning has been established under the chairmanship of the Director-General of the EPU, with MAMPU as the Secretariat. The members of the Committee include representative from the Ministries of Education, Labour and Manpower, Public Service Department, EPU, Implementation Co-ordination Unit, MAMPU and the Statistics Department. The general

Figure 3.1 The Organisational Framework and Linkages in Manpower Planning and Development in Malaysia.



Source: MAMPU (1982), P. 55.

objective of the Steering Committee is to streamline and strengthen manpower planning activities aimed at fulfilling the actual manpower targets and to ensure a proper co-ordination of such efforts that are being undertaken by the various relevant agencies so as to be in line with the overall national policy.

Another important division is the Labour Market Information Unit which undertakes the collection and publication of national and state-level labour statistics, i.e. vacancies, placements, workforce characteristics. However, manpower planning in Malaysia is still in its infancy stage (Sieh and Lim, 1984, Mehmet, 1987). Educational planning has generally failed to meet the objectives of manpower planning; the gap between supply and demand is considerable (Sieh and Lim, 1984, MPEN, 1991).

International literature has highlighted the fact that manpower planning has been unsuccessful in many countries, partially due to economic contingencies (Hopkins 1988). Nonetheless, educational planning is instrumental in developing the necessary skills base for the economy. This research is concerned with the development of a sufficient number of technicians and skilled workers who can contribute positively to industrial success. Incidences of a mismatch between vocational certificates and available jobs, and subsequent resource wastage highlighted the need to review the provision of vocational education parallel to the needs of industry.

3. 3. 3 The Manpower Needs Approach to Educational Planning

From the government point of view, the building of Malaysia as a modern nation depends upon the development of its people and the organisation of human activity. Malaysia needs educated political leaders, lawyers, economists, doctors, managers, educators, engineers, technicians and skilled workers to spur its development. If Malaysia is unable to develop its human resources, it cannot develop much else, whether it be a modern political and social structure, a sense of national unity or higher standards of material welfare. Its wealth is based upon its power to develop and to effectively utilise the

innate capacities of its people. The First Malaysian Plan (Government of Malaysia, 1966:78) supports this view:

A country's rate of economic development is determined not only by its material resources and the size of its internal market but also by its 'brainpower' i.e. by success in developing and in utilising effectively the intellectual capacities of its population. Wastage of these human capabilities, whether through unemployment or failure to develop sufficiently the intellectual potential of individuals, is a drag on development as well as a major social problem.

Malaysia is taking deliberate measures to influence the allocation of manpower. Increasingly, however, manpower needs call for more conscious educational planning. Since Malaysia's independence, educational planning has received considerable attention and it has continued to be accorded a very high priority in the overall planning and developmental process of the nation. The overwhelming importance placed on education is influenced by the realisation that it occupies a central position in the nation's drive to achieve her national objectives and to improve the quality and performance of her human resources. Malaysia has attempted to redirect the function of education towards the manpower needs of the economy, and there are deliberate guidance efforts to direct individuals to national manpower priorities. Several changes which have taken place in Malaysia since 1956 indicate the importance of manpower planning.

The Razak Report (MOE, 1956), the first education report, was important to educational development in Malaysia. The National Education Policy, as stated in the Education Act 1961, was based on the Razak Report (MOE, 1956) and the Rahman Talib Report (MOE, 1960). Although the Razak Report does not explicitly discuss the issue of manpower, this issue is implicit in the use of the word 'economic' in the following extract:

Once all schools are working to a common content syllabus, irrespective of the language medium of instruction, we consider the country will have taken the most important step towards establishing a national system of education which will satisfy the needs of the people and promote their cultural, social, economic and political development as a nation (MOE, 1956: 119).

Educational planning and the manpower needs approach are comparatively new concepts in the domain of development programmes in Malaysia as evidenced by the formal establishment of Educational Planning and Research Division (EPRD), Ministry of Education in 1963; and the EPU, Prime Minister's Department in 1959. In 1977 the EPU's manpower planning functions were handed over to the MAMPU.

The EPRD is one of the 20 divisions in the Ministry of Education responsible for overall educational planning in the country. This division is the secretariat to the Educational Planning Committee (EPC), the highest decision-making body of the Ministry of Education concerned with general policy matters. All other divisions in the Ministry channel their proposals to the EPC through this division, which analyses and presents them to the EPC with recommendations. It is in this capacity that the EPRD performs an overall co-ordinating function of macro planning activity. Outside the Ministry of Education, the EPRD co-ordinates with the State Education Departments, local universities and the EPU. The EPU is responsible to the National Development Planning Committee, whose membership comprise all major economic development ministries in the country under the chairmanship of the Chief Secretary to the Government.

With the purpose of strengthening manpower planning capacity, the MAMPU, is being given the responsibility to carry out and co-ordinate

the process of manpower planning and development among the various sectors in the country. MAMPU has the following objectives: (a) to strengthen the administrative and manpower planning structures of the development machinery at the federal, state and local levels of government to achieve the long-term goals in administrative modernisation and manpower planning (b) to improve and modernise administrative systems and procedures at the operating level through systems and management studies, especially oriented towards speeding up the process of development and implementation (c) to introduce new management techniques and innovations designed to increase the effectiveness of resource and programme management at all levels of government, and (d) to introduce an effective system for manpower planning and development designed to project needed manpower resources for economic development.

Since 1966 Malaysia has continuously prepared its five-year development plans and is at present in its Seventh Malaysian Plan (Government of Malaysia, 1991). Every development has its production targets, which has certain human resource implications and requirements since each development plan has its own manpower objectives to achieve. Any shortage in the manpower supply constitutes a bottleneck to the successful implementation of the development plan and the attainment of its objectives. As a result, continuous efforts are made to meet the manpower needs of the economy more effectively. High priority has been placed on the expansion and revision of the education and training system so as to meet the requirements for trained manpower effectively and to upgrade the productive capacity of the labour force. Efforts by the manpower planning and training institutes throughout the country have increased to effectively assess the changing skill requirements of the economy to better equip the labour force with employable skills.

In September 1974 the government of Malaysia formed a cabinet committee to review the implementation of the present national education system (Ministry of Education, 1979: 1):

To review the objectives and effectiveness of the present education system, including its curriculum, in terms of the existing national education policy, with the aim of ensuring that the short term as well as the long term national manpower needs are met and furthermore to ensure that this education fulfils the national objective towards creating a united, disciplined and trained society.

One of the recommendations forwarded by the committee highlighted the manpower issue p. 233:

In view of the fact that the nation greatly needs middle level skill manpower for its development, it is recommended that the output of manpower at this level be increased.

Within the Malaysian manpower needs approach to educational planning and with scarce resources, it may be helpful for decision-makers to know how well the educational system performs in preparing people for key occupations. Is the Malaysian educational system performing well enough to meet manpower needs? Education is specifically addressed to and often guided by the manpower needs derived from economic growth targets. It is the hope of the Malaysian education system to make advances in knowledge for the country's long-term economic growth. It must develop the manpower needed for higher economic output in the immediate and distant future. Planning is needed to indicate the kinds of education necessary to meet individual and national needs for skilled manpower. Educators recognise the importance of occupation to the lives of their students and understand fully the role of education in national manpower development. Education plays a central role in the occupational decisions which students make while still in school. School authorities and economic planners need to be aware of and concerned with the relationships between occupational choices of students and manpower

needs. However, there are times when the goals of education ignore the decision of the students, who deserve a greater role in planning their future. This neglect causes a serious disjunction between educational plans and what is actually achieved. We now turn to an analysis of the role of vocational education in increasing productivity, and to how schooling contributes to human resource development.

3.3.4 The Role of Vocational Education and Training

The major thrust of the development plans under the New Economic Policy in Malaysia is the forging of a national identity through the unification of people of diverse origins, language, and ethnic groups.

In the education sector, efforts are geared toward the improvement of the education system as a means of achieving national goals and objectives. This is done through the expansion of facilities for increased enrolment in the primary, secondary, and tertiary levels as well as the promotion of the quality of education. An important factor in the expansion of facilities is the endeavour to provide more training opportunities for the expanding young population and the unemployed youths in the rural areas through formal and informal vocational education and training programmes to increase the skilled manpower to meet the demands of industrialisation.

The 1973 Manpower Survey conducted by the EPU, which provided detailed occupational and educational requirements through to 1990, predicted higher than average growth of demand for professional and technical manpower (EPU, 1973). Accordingly, it called for a sizeable expansion in the education of scientific and technical personnel, and a vast expansion of personnel and facilities for education and training at

the secondary and tertiary levels of education in the sciences and technologies. It is also demonstrated that the share of the Bumiputera in scientific, technical, and managerial occupations though improving as compared to earlier years, is still low. Under-representation identified in occupations such as chemists and physical scientist, engineers, architects and town planners, doctors, dentists, managers, production supervisors, technician and other skilled occupations at the production level calls for enlarged participation on the part of the Malays and other indigenous people.

In another follow-up study carried out by the MAMPU of the Prime Minister's Department (1983: 32), they support the projections done by the Manpower survey of 1973. It concludes:

Based on the manpower requirement approach during the next 10 year period, the employment structure is projected to undergo significant structural changes due mainly to the variation in the growth rate of industrial sectors. The percentage growth rates of other sectors are expected to show a marked increase. Such development will bring about changes in the training requirement..... Another feature that is expected to have an important impact on training will be change of occupational distribution within industries. This can be the result of changes in sectoral employment, technological changes, or changes in business operation. It is envisaged that the rate of growth of major occupational groups would be relatively higher indicating a need to expand the training facilities of professional, technical, and production workers.

This in part reflects the existence of alternative methods to the development of skills including formal education, nonformal education programmes such as on-the-job training, adult training programmes, and informal education such as self-instruction, learning through experience, and apprenticeship programmes provided by private-owned workshops. While the expansion of formal education and

training opportunities has led to further upgrading of new entrants in various occupations, the opportunities available for acquiring skills through informal methods continued to be an important factor in the labour market adjustment process. Thus in meeting the demand for manpower, education and training programmes have provided expanding opportunities for on-the-job training in industry. This has also facilitated the more rapid absorption of the Malays and other indigenous people into skilled occupations and their upgrading to higher levels of the job hierarchy.

One question that now needs to be answered is whether the education system is fulfilling its manpower needs. Specifically, we need to find out whether the education system is providing the nation's manpower with employability skills. This question is all the more pertinent with regards to vocational education and training not only because it is more expensive compared to general education but also because of more urgent needs of skilled manpower to meet the demands of an expanding economy and the restructuring of the Malaysian society under the New Economic Policy.

According to Hodkison and Issitt (1995), the emphasis of the vocational education programme is on the development of knowledge. Vocational education is viewed as an essential element in the career development of individuals. Its primary purpose is providing a balanced programme of instruction and experience which enables the individual to develop a more refined and clearly defined self-concept as it relates to industrial and technical occupations in the world of work. Vocational education is part of the education system which enables individuals to fulfil career objectives relating to trade, industrial, and technical areas.

As mentioned earlier, vocational training programmes in Malaysia are conducted by various agencies in government, semi-government and private bodies such as the Vocational School under the Ministry of Education, the Industrial Training Institute, established by the Ministry of Labour and Manpower in co-operation with the private sector, the Youth Development Corps under the Ministry of Youth and Sports, and the Vocational Institute under the Council of Trust for the Indigenous People. Most of these programmes are nonformal except the vocational education programme under the Education Ministry.

Finally, to better meet the manpower needs of the country, the Malaysian education system is undergoing restructuring to shift the focus to science and technology. Enrolment into the science stream at the upper secondary school levels has declined from 31 percent in 1986 to 21 percent in 1993, thus contributing to the low output of engineering graduates. The lack of interest in the science and technical fields may adversely affect Malaysia's strive towards industrialisation. In line with these developments and other challenges, the Ministry of Education is in the process of a major restructure. The secondary vocational schools will be upgraded to technical schools. Liberalisation of policies are already in place to make Malaysia a centre of excellence for learning in the region.

3.3.5 Projection of Manpower Needs

The nineties will be a challenging decade for human resource development in Malaysia. This is because the economic transformation towards greater industrialisation depends not on capital resources and technological development, but also on the quality of available human resources. Malaysians will need to be technically competent

and enterprising. It is equally important for our future workforce to be diligent, dedicated, creative, highly disciplined, quality conscious and adaptable to the changing economic environment. An important means of inculcating these values will be a forward-looking and pragmatic education and training system geared to meet the future needs of the nation (Government of Malaysia, 1991b).

Manpower planning has been accorded top priority as an instrument of employment and socio-economic restructuring since the implementation of the NEP. Each Five-Year Plan has devoted extensive coverage to manpower planning, with elaborate statistical information relating to NEP manpower targets and performance in terms of restructuring. However, Malaysian manpower planning suffers from a fundamental inconsistency with economic planning and policy. The principal task of manpower planning in Malaysia had been centred on employment restructuring under the NEP (Mehmet, 1989). This task, unfortunately, had been implemented independently of investment and resource allocation, most notably insofar as the private sector is concerned.

Estimates of manpower demand usually employ the manpower needs approach, which rely on estimates of the labour-output ratio, derived from historical sequence, and assumed to grow at a certain rate reflecting a rising productivity of labour. The labour-output coefficients by sectors, or a variation using employment elasticity measures, are then applied to projected sectoral national output to give future projections of new required demand to achieve the output. These projections of skills or labour requirements are then matched against estimates of supply at the various levels to provide a relatively crude measure of the supply gap. Manpower needs approach is therefore used primarily to determine the relative supply of knowledge

and skill based workers. In Malaysia, this method of projecting manpower needs has been utilised since the early 1970s to estimate different types of manpower.

Manpower needs approach has been criticised for being subject to wide errors of estimation, and should be treated as indicative rather than deterministic of the eventual demand. Alternative methods such as rate of return method and employer survey should be used to supplement these projections. The manpower needs approach which is less demanding of data than labour market studies, however, provides a macro-level picture of the magnitude of the skills problem.

The demand for manpower begins with projecting the demand for various categories and levels of skills of manpower which the economy requires over a time span. Based on the projections provided by the development planning process, the rates of growth of the various socio-economic sectors can be forecasted, and categories of manpower needs can be identified. In the public sector, growth and organisational expansion in response to development activities indicate the categories of skills needed to perform these activities. Projections made on the basis of aggregated demand for manpower by various departments and agencies constitute the overall manpower demand in the public sector.

Recognising the need for figures in planning purposes, the Government had, in the past, attempted to forecast manpower requirements at the national level. These projections had been useful to a certain extent in highlighting the growing importance of skills needed for the medium and long terms, especially for the professional, technical and production workers. Some of the efforts done on

forecasting manpower needs at the national level are Manpower Survey 1965, Manpower Survey 1973, Towards a Master Plan on Manpower Demand, Industrial Master Plan on Manpower and Training (IMP).

Evaluation of forecasts made in other countries shows a similar outcome and brings home the point that it is difficult to project occupational employment accurately. The prediction error tends to be substantial when the estimates are made at the more disaggregated level. If the projections are derived from employers survey, the indications of their manpower demand can, at best, be in the short-term: one cannot realistically expect employers to come up with fairly good estimates beyond three years into the future. Long-term manpower projections, such as the one performed in the Manpower Survey 1973, are essentially based on macro economic modelling.

Manpower surveys as forecasting techniques have not had a satisfactory record in the Malaysian planning context because they have failed to capture the shifts which occurred as part of the country's industrial and economic development since 1970. This survey method has not been used since. In subsequent forecasting exercises, extrapolations and other techniques have been used. In 'Toward A Masterplan on Manpower Development' by MAMPU (1983), the survey method was replaced by a combination of statistical extrapolations using census data, and employment elasticity of output estimates.

3.3.5.1. Supply

The population of Malaysia increased from about 13.9 million in 1980 to 18.0 million in 1990. The increase is still considerably higher than in most countries at a comparable stage of development. It is projected to increase by 2.3 percent per annum to reach 22.7 million by the year 2000. Approximately 61.2 percent of the population are Bumiputera, 30.0 percent Chinese, 8.2 percent Indians, including Sri Lankans and Pakistanis, and 0.6 percent 'Others' (Leong et al., 1990). Despite calls for a five-children family and a 70 million population goal, the rate of population growth is likely to continue to decline to below 2 per cent as we cross into the 21st. century. The 70 million population target will be comfortably achieved by the end of the 21st. century. Table 3.1 sets out the population and labour force parameters for the 1990-2000.

Table 3.1: Population and Labour force, 1990-2000 ('000)

	1990	(%)	2000	(%)	Average Annual Growth (%)
Total Population	18,010.2	100	22,660.5	100.	2.3
Age Group					
a. 0 - 14	6,752.0	37.5	7,890.1	34.8	1.6
b. 15 - 64	10,589.7	58.8	13,773.5	60.8	2.6
c. 65+	668.5	3.7	996.9	4.4	4.0
d. Labour force	7,046.5		9,364.5		2.9

Source: Malaysia, Government of (1991) Second Outline Perspective Plan, 1991-2000.

The rates of growth of different age groups varied considerably over the years. The 15-64 age cohort is projected to constitute 60.8 percent

of total population as compared to 58.8 percent in 1990. The dependent age group 0-14 will proportionately decline to 34.8 percent. About 231,800 people mostly young, will on average, be added annually to the labour force in this decade-an annual growth rate of 2.9 percent.

This labour force growth rate of 2.9 percent per annum comes about as a result of the increase in the age cohort of 15-64 as well as a higher participation rate of both males and females, particularly the females. As work opportunities are decentralised, female type jobs grow, and educational levels rise, more women are attracted into employment.

Table 3.2: Profile of the Labour Force, 1990-2000 ('000)

	1990	(%)	2000	(%)
Total Labour Force	7,046.5	100	9,364.5	100
a. Primary	3,558.5	50.5	2,528.4	27.0
b. Lower Secondary	2,994.8	42.5	5,806.0	62.0
c. Upper Secondary and above	493.2	7.0	1,030.1	11.0
Participation Rate				
a. Total		66		68
b. Male		85		86
c. Female		47		49

Source: Source: Malaysia, Government of (1991) Second Outline Perspective Plan, 1991-2000.

Malaysia has achieved universalisation of education. The impact of expanding educational opportunities and higher educational achievements in Malaysia is clear (Table 3.2). More than 70 percent of

labour force has 6-9 years of education or higher. Probably every worker in the decade of the 1990s would have at least some years of primary education. This profile of manpower is of great significance in tapping and building the capabilities of workers in the scientific and technological age.

The high inflow of foreign investment into the country resulted in the introduction of new production processes and technologies, particularly by multinational companies. This necessitated the country producing highly competent manpower with advanced skills in specialised trades. In responding to these new industrial requirements, two advanced skill-training institutions were established during the period, namely the German-Malaysian Institute (GMI) in the areas of industrial electronics and production technology and the Malaysian-France Institute (MFI) in electrical equipment installation, welding technology and maintenance of automated systems. In addition, a Business and Advanced Technology Centre (BATC) under the management of *Universiti Teknologi Malaysia* was established in 1992 to produce more engineering managers who can integrate state-of-the-art technological knowledge with practical business management skills.

3.3.5.2. Demand

In the 1990-2000 period, with labour supply growing at 2.9 percent per annum and the demand for labour expected to grow at 3.2 percent per annum, the backlog of employable labour is likely to be quickly mopped up and competition for workers will grow in intensity. The overall unemployment rate is expected to reduce to 2.8 percent on

Table 3.3: Manpower Requirement By Economic Sector 1990 - 2000
(in thousands of persons)

SECTOR	1990		2000		Average Annual Growth	New Jobs	
	('000)	(%)	('000)	(%)		('000)	(%)
Agriculture, Livestock, Forestry and Fishing	1,837.6	27.8	1,799.9	20.0	-0.2	-37.7	-1.6
Mining and Quarrying	39.1	0.6	42.3	0.5	0.8	3.2	0.1
Manufacturing	1,290.2	19.5	2,143.9	23.9	5.2	853.7	36.1
Construction	426.9	6.4	664.4	7.4	4.5	237.5	10.0
Services *	3,027.0	45.7	4,335.8	48.2	3.7	1,308.6	55.3
Total	6,620.8	100	8,986.3	100	3.1	2,365.3	100
Labour Force	7,042.0		9,327.1				
Unemployment	356.0		260.9				
Unemployment rate (%)		5.1		2.8			

Source: Malaysia, Government of (1991) Sixth Malaysia Plan, 1991-1995.

Malaysia, Government of (1996) Seventh Malaysia Plan, 1996-2000.

Malaysia, Government of (1991) Second Outline Perspective Plan, 1991-2000.

Note: * Include Government Service and other non-government services (utilities, wholesale and retail and restaurants etc).

the labour force by the year 2000 - a far cry from the days in the late 1960s when unemployment reached nearly 10 percent.

The emerging tightening of the overall labour market is evident (Table 3.3). With rapid growth of the economy, some 2,365,300 jobs are expected to be created in the 10 year period of 1990 to 2000. While the agricultural sector will experience a net loss of 37,700, releasing people to other sectors, the manufacturing and services sectors are expected to grow rapidly to provide over 2.1 million new jobs - this means that these two sectors are likely to require over 2.1 million new workers (nett), thus almost matching the 2.3 million new workers (nett) coming into the labour force during the 10 year period.

The main source of demand for manpower in the next decade is projected to come from the service sector. The manpower required by this sector may increase by a total of 1,308.6 thousand persons, that is by average of 3.7 percent per annum, from 3,027.0 thousand persons in 1990 to 4,335.8 thousand persons in the year 2000. The share of the services sector in terms of total employment opportunities could, therefore, increase from 45.7 percent to 48.2 percent. Although the average annual output growth in the manufacturing sector is expected to be sustained at a double digit rate, the pace of expansion of manpower required by the sector may not be as rapid, since the sector may continue to shift towards labour savings production technology, in view of the potential problems relating to shortage of production workers and rising wages. Consequently, the total manpower required by the manufacturing sector is projected to expand by a total of 853.7 thousand persons, that is by an average of 5.2 percent per annum from 1,290.2 thousand in 1990 to 2,143.9 thousand persons in the year 2000. The sector's share of the total

manpower required may decrease from 19.5 percent in 1990 to 23.9 percent in the year 2000.

The total manpower required by the agriculture sector is also expected to decrease, by 0.2 percent per annum, from an estimated 1,837.6 thousand persons (27.8) percent of the total nation's requirements) in 1990 to 1,799.9 thousand persons (20.0 percent of total) in the year 2000. Unless wages and employment conditions in this sector are kept relatively more favourable than the sector in recruiting local workers may become more acute. Chances are that the sector's dependence on foreign workers is likely to increase further.

The manpower required by the construction sector is also expected to expand. With the real GDP of the sector expanding by 6.0 percent per annum, the sector's manpower requirements could increase from 426.9 thousand persons in 1990 (6.4 percent of total) to 664.4 thousand persons in the year 2000 (7.4 percent of total). As in the agricultural sector, foreign workers may increasingly form a large portion of the workforce in this sector.

The OPP2 (Government of Malaysia, 1991b) targeted occupational scenario which sees the fastest growing occupations to be those in the professional and technical, administrative and managerial, sales and production categories in line with the growth in the manufacturing and tertiary sector activities as shown in Table 3.4. These occupations will account for 1.8 million new jobs or 76.7 percent of the new jobs created during the period. The demand for production workers alone, especially in manufacturing and construction

Table 3.4: Manpower Requirements By Major Occupational Group 1990-2000
(in thousands of persons)

Occupational Group	1990		2000		Nett Increase 1991-2000		Average Annual Growth Rate 1991-2000 (%)
	('000)	(%)	('000)	(%)	('000)	(%)	
	Professional and Technical	580.8	8.8	900.8	10.0	320.0	
Administrative and Managerial	162.4	2.4	263.7	2.9	101.3	4.3	5.0
Clerical	645.9	9.8	891.3	10.0	245.4	10.4	3.3
Sales	761.3	11.5	1,243.2	13.8	481.9	20.4	5.0
Service	770.3	11.6	1,131.5	12.6	361.2	15.3	3.9
Agriculture *	1,872.5	28.3	1,818.2	20.2	-54.3	-2.3	-0.3
Production Workers	1,827.8	27.6	2,737.6	30.5	909.8	38.4	4.1
Total	6,621.0	100	8,986.3	100	2,365.3	100	3.1

Source: Malaysia, Government of (1991) Sixth Malaysia Plan, 1991-1995.

Malaysia, Government of (1991) Second Outline Perspective Plan, 1991-2000.

* Negative growth of this occupational group is due to a net reduction in job creation in the agriculture sector.

activities, is expected to account for 38.5 percent of the new jobs created in the economy during the OPP2 period. The professional and technical category is expected to provide 320,000 new jobs during this period, of which about 48 per cent will be created at the technician level. With the continuation of the present upgrading of production technology from the simple assembly and process type operations to more sophisticated and automated processes, there will be an increase in demand for about 153,000 engineers and engineering assistants over 1991-2000. This demand will be more pronounced in the civil, mechanical, electrical and electronics, industrial and design fields, There will also be increased demand for scientists and technologists in research and development activities. In view of the commitment of the Government towards maintaining and upgrading the quality of education and health care for the population, the demand for teachers and doctors and other medical personnel will remain high.

For selected professional and technical occupations such as those in engineering, medicine and health, as well as teaching, the net increase in employment is expected to be 244,000 by the year 2000. This will be met by both the domestic public and private sector educational and training institutions as well as those overseas. The private sector is expected to produce 32 percent of the projected demand of 122,900 during the period.

In the administrative and managerial category, changes in job content are expected to accompany the growth in management jobs. Managers and supervisors both in the public and private sectors will, therefore, need a wider range of technical competence to handle more complex operations as well as oversee a greater mix of capital equipment and skilled employees. With regard to sales and clerical occupations,

greater stress is being placed on a higher level of product knowledge, inter-personal communication skills, keyboard skills, software knowledge, and wider commercial awareness. A total of 828,600 new jobs will be created in these three occupational categories.

With greater industrialisation and the adoption of new technology, more skilled workers at the production level will be required. This will lead to an increased demand for manpower with wide craft-based competence and complementary skills. As the process of education and training is geared to meet the future manpower needs of the nation, education and training programmes will be more scientifically oriented.

3.4 Conclusion

This chapter has reviewed relevant theoretical and empirical evidence concerning the educational structure of the manpower and the development of qualified manpower to improve national economic competitiveness. This review highlighted an important correlation between educational investment and economic development, which is the crux of human capital theories.

Manpower planning is linked with educational planning in that it provides guidelines for educational planners to set enrolment targets to ensure that manpower demand is matched with manpower supply. Limitations of manpower planning relate to the existence of economic uncertainties, and the social and cultural contexts of the country which the plans are to serve.

Issues on the quantity, quality and efficiency of educational investment for manpower development have been widely debated in many countries. Improved co-operation between school and industry in strategic areas, such as provision of work experience placements and career and labour market information, can improve the 'quality' of school leavers for more productive employment in industry.

Education for development plays a fundamental role in Malaysia and other countries which are attempting industrial progress. From the viewpoint of a manpower needs approach, the development of human resources is focused on the allocation of individuals into various occupational categories. The educational system is responsible for producing projected output as targeted. The manpower needs approach links manpower with educational planning and this approach has its limitations and advantages. Educational development and manpower planning activity have remained important in Malaysia and other countries despite many caveats in their projections.

Within the Malaysian manpower needs approach to educational planning and with scarce resources, it may be helpful for decision-makers to know how well the education system is preparing people for key occupations. Is the Malaysian educational system performing well enough to meet the manpower needs? Education is specifically addressed to and often guided by the manpower needs derived from economic growth targets. Planning is needed to indicate the kinds of education necessary to meet individual and national needs for skilled manpower. Educators recognise the importance of occupation to the lives of their students and understand fully the role of education in national manpower development. Education plays a central role in the occupational decisions which students make while still in schools.

School authorities and economic planners need to be aware of and concerned with the relationships between occupational choices of students and manpower needs. However, there are times when the goals of education ignore the decision of the students, who deserve a greater role in planning their future. This neglect causes a serious disjunction between educational plans and what is actually achieved. At the individual level, choices of expected occupations vary from person to person. Various theories of occupational choice have tried to explain the phenomenon, but each theory has its limitations and strengths. In the next Chapter, the theories of occupational choice will be discussed.

CHAPTER FOUR

OCCUPATIONAL CHOICE: A REVIEW OF THE LITERATURE

4.1 Introduction

As has been mentioned earlier, this study is concerned with the question of the determinants of occupational expectations. As such, the brief review of literature presented below will focus only on this area. Occupational choice and young people's entry into the world of work have been the objects of extensive research and theorising for the last four decades. Contributions to the understanding of the transition from school to work and the process of occupational choice have come from both sociologists and psychologists and often from interdisciplinary teams. The factors and influences which shape a person's occupational expectation or occupational choice range from those related to the personality of the individual to those related to the wider social system. Educational experiences, socio-economic status (SES), the talents and interests of a person and gender have all been shown to be important. Furthermore, the existing labour market situation and the geographical location of the respondent may also have influence on occupational expectation and choice. This chapter examines the various theories of occupational choice in general and the sociological theory in particular. A review of the literature on the notion of occupational expectations, theories of occupational choice, related studies and careers guidance theories provides theoretical and empirical relevance to the occupational decision-making process.

4.2 The Notion of Occupational Expectations

Occupational expectations reflects what a person actually expects or intends to reach in terms of employment. The choice of an occupation represents the first major decision that a young person has to make in life. This choice is likely to have profound effects on the person's future happiness. If a person is unhappy in the job he has chosen, this unhappiness is likely to affect his overall level of satisfaction and happiness in life. The factors and influence which shape a person's occupational expectations and occupational choice range from those related to the personality of the individual to those of the wider social system. Educational experiences, SES, the talents and interests of a person and gender have all been shown to be important. Furthermore, the existing labour market situation and the geographical location of the respondent may also have an influence on occupational aspiration and expectations. The work a person does will also influence their social status and is likely to have a significant effect upon their attitudes, hopes and expectations.

During the process of growing, learning and developing, children and adolescents are asked with greater and greater frequency 'What do you want to be when you grow up?' Early in childhood this question is relatively unimportant in an individual's life, but during adolescence, finding an answer to the question becomes a more urgent task. Adolescence is also a stage of life when individual identity is of greater concern and so decisions about occupational choice become inextricably linked with the individual adolescent's view of himself or herself. Indeed, occupational choice is a stage, or an event, in an occupational career. In the classic study by Ginzberg et al. (1951) occupational choice is perceived as the culmination and summing-up of a process of self-channelling which a person begins at a very early age, and through a developmental process of elimination of

alternatives directs himself/herself to the desired occupation. Occupational choice can be repeated more than once in the course of a career, either because the first choice did not seem successful to the person or because they reached the end of a route and wished to start a new route (second chance). Hence, occupational choice should be regarded as being related to what happens to the person before making the choice and how they see their future career.

Super (1957) stresses the fact that occupational self-building does not finish with the choice, but continues afterwards in the course of the work. Other approaches stress that a person makes more than one occupational choice in the course of his working career. The sociological study of careers is the investigation of people's characteristic steps, from the point of view of their occupational history and moves from occupation to occupation, or from position to position, or from status to status in the course of their lives.

Sociologists who deal with the question of occupational choice have been interested in the nature of the effect of social environment on choice. This can be defined as a question of the level of control a person has over his life. Sociologically speaking, this problem can be analysed by using three concepts:

1. Opportunity structure: macro social factors, like socio-economic status, ethnic origin, sex, etc., set the constraints and opportunities the person will have, and the potential resources they will be able to use in making occupational choices and formulating their career orientations.
2. Awareness context: resources are used and situations are manipulated by the actor in the framework of what opportunities they know about and of what others know of such opportunities and their readiness to make use of them. This is the level of action that concerns the interrelations between the individual and society.
3. Life cycle: the individual's passages from one stage of life to another and the uses they make of resources they have accumulated

in previous stages. These are the micro aspects of the level of control one has over a career.

It is generally agreed that a person's occupation affects his or her way of life and psychological well-being. A person's occupation may be a major source of identity. The kind of work a person does has a profound influence on the non-work areas of people's lives, on family life, on leisure and on political attitudes. Work is certainly crucial in that it gives that person identity and status within society.

Not surprisingly, the potential importance of occupational choice processes in the life of each individual makes it imperative that occupational/vocational psychologists, sociologists, economists and careers guidance counsellors all have an interest in the processes by which adolescents choose their jobs. The range of factors and influences which have been proposed as important in the choice processes, have ranged from those located in the individual, to those located in the wider social system. Personality, educational experience, home background, interest and sex have all been shown to be of importance, but equally, existing economic climate, available job opportunities have been examined and research evidence shows that these factors also, are undoubtedly of some importance in the processes of occupational choice. It is to theories of occupational choice we now turn.

4.3 Theories of Occupational Choice

4.3.1 Classification

Theories of occupational choice are many and varied. Different classifications of occupational choice theories have been suggested.

Osipow (1968) placed career development theories under four categories: (1) trait-factor approaches; (2) sociology and career choice; (3) self-concept theory; (4) personality theories. Some sociologists have proposed a dual classification: (1) the individual-ambition model, which encompasses almost all psychological theories, and (2) the opportunity-structure model, which includes mainly sociological theories (Speakman, 1976).

Crites (1969) employs three broad classifications with subdivisions: (1) non-psychological theories (accident, economic, cultural, and sociological); (2) psychological theories (trait-factor, psychodynamic - in which he includes psychoanalytic, need, and self theories - development theories, and decision theories); (3) general theories (Blau et al's interdisciplinary approach, and Holland's typological theory).

Accident theory by Miller and Form (1951) states that chance experiences explain the process by which most occupational choices are made. Economic theory (Rottenberg, 1965) assumes that people have complete freedom of choice in choosing a job and accept positions that offer the best net advantage (usually the best wage) to the individual. Economic theory is based on the idea that money is the prime determinant in choosing career. People who demonstrate this theory choose on the basis of, 'Where can I make the most money?' Their career changes are also based primarily on this factor. Cultural and sociological theories (Lipset, 1962) assert that occupational choice is determined by the valued goals and objectives an individual learns from the society and culture in which he or she lives. Undoubtedly, unplanned and unpredicted events affect our lives and the decisions we make: certainly most individuals choosing among a set of options will decide on the one perceived to offer the greatest return; and

culture and society shape, to some degree, the values one assigns to occupationally related rewards and outcomes.

The theories of occupational choice will be presented in the following sections of this chapter. Theories will be classified in two main categories: psychological and sociological. Some of the theories will be presented in more detail than others, while others will be very briefly described or simply mentioned. This was done on the basis of how relevant is the theory to some of the approaches adopted for the design of this research. This study focuses on the arguments made by sociological theories in explaining vocational decisions made by individuals.

4.3.2 Psychological Theories of Occupational Choice

Psychologists view occupational choice in various ways: (a) Developmental approach - consisting of stages that the individual goes through, in choosing and maintaining a career; (b) Personality or matching approach - a process of matching the characteristics of the individual with those of career; (c) Decision-making approach - a decision-making process almost conforming to all the assumptions of rationality; (d) Social learning approach - the result of social learning. All psychological theories attempt to explain occupational choice from the perspective of the individual and largely neglect external constraints on occupational choice, which are mentioned but not studied. The major psychological theories of occupational choice (Holland, 1985; Super, 1990) are built on the fundamental assumption that individuals attempt to implement their self-knowledge in the kind of job they choose; their occupational adjustment and satisfaction therefore largely depend upon the degree

of compatibility between work and self. Trait-Factor theories assert that because people differ in aptitudes, interests, and personality traits, and because occupations require varying amounts of each, different individuals choose different occupations (Crites, 1969). Need theory (Roe, 1957) states that the way in which one learns to satisfy needs determines special abilities, interests and attitudes that determine job choices.

4.3.2.1 Self-concept Theory

The major psychological theories of occupational choice are built on the fundamental assumption that people attempt to implement their self-knowledge in the type of work they choose and therefore that vocational adjustment and satisfaction are determined by the degree to which job and self are compatible. Self-concept is a useful link to integrate the process and organisational approaches to career development. Social class and intelligence would seem to be natural candidates for incorporation into a self-concept theory of occupational choice.

The central theses of this theory are: (a) individuals develop more clearly defined self-concepts as they grow older; (b) in trying to make career choices, individuals develop their own images of the occupational world and compare them with their self-image; (c) the adequacy of the eventual career decision is based on the similarity between the individual's self-concept and the concept of the chosen occupation.

Super (1957) argues that career choice is a process of achieving compatibility between the person and the chosen occupation. He maintains that self-concept has a crucial influence in the process of occupational choice. Super (1981) enunciates twelve propositions in his developmental self-concept approach in response to a theory of occupational choice based on his work in 1953. Some of the propositions are: (a) people differ in their abilities, interests and personalities; (b) they are each qualified for a number of occupations; (c) each of these occupations requires a characteristic pattern of abilities, interests and personality trait; (d) the nature of the career pattern is determined by the individual's and their parents' socio-economic level, mental ability and personality characteristics and by the opportunities presented; (e) the process of vocational development is essentially that of developing and implementing a self-concept; (f) the process of compromise between individual and social factors, between self-concept and reality, is one of role-playing, whether the role is played in fantasy, in the counselling interview, or in life activities such as school classes, clubs, part-time work, and entry jobs.

However, Ginzberg et al. (1951) were the first to attempt to devise a comprehensive theory of how individuals choose to enter particular occupations. They identified the stages through which young people's occupational choices develop:

the key to the study of occupational choice appears to lie in an appraisal of the way in which the individual, as he matures, reaches decisions with respect to his eventual occupation, for an individual never reaches the ultimate decision at a single moment in time, but through a series of decisions over a period of many years; the cumulative impact is the determining factor (pp. 29-27).

Ginzberg and his colleagues developed the theory considering occupational choice as a sequence of developmental processes leading to entry into an occupation evidenced by periods. The first, the fantasy period, occurs from early childhood to age eleven. The second or tentative period covers ages eleven to approximately seventeen and is comprised of the interest stage, ages eleven to thirteen; capacities stage, age thirteen to fourteen; values stage, ages fifteen to sixteen; and transition stage, age seventeen. In this later stage the young person is beginning to shift from subjective factors such as interests, capacities and values to the reality conditions that will play a large part in determining the final choice. The third period, occurring after age seventeen, is the realistic period. It is made up of three stage: the exploration stages, when the young person is exploring subjects and careers; the crystallisation stage, when the young person is able to assess the many factors influencing the career choice; and the specification stage, when the choice is finally made.

The basic elements of Ginzberg's theory of occupational choice are that: it is a process; the process is largely irreversible; compromise is an essential aspect of every choice. Ginzberg (1985) modifies some of the concepts used in his theory. In the concept of irreversibility, although the early decisions usually delimit the individual's options, they are not necessarily determining later on. The concept of compromise is being revised:

Although an element of compromise unquestionably is present in every person's occupational choice, an improved formulation replaces compromise by optimisation. Men and women seek to find the best fit between their changing interests and goals and their changing circumstances. In short, emphasis is shifted from a one-time compromise to a lifelong dynamic (p. 91).

Ginzberg reformulates the definition of occupational choice:

Occupational choice is a lifelong process of decision making for those who seek major satisfactions from their work. This leads them to reassess repeatedly how they can improve the fit between their changing career goals and the realities of the world of work (p. 91).

Ginzberg's approach has been criticised because the respondents of the initial research upon which the theory was based were white, middle class and educationally successful. They were chosen because their external environment interfered very little with their choices of occupations. This has led to suggestions that the theory is only applicable to an elite group in the higher socio-economic strata of society (West and Newton, 1983). The theory fails to state the differences between preference, choice and attainment, thus reducing its clarity (Osipow, 1973). Holland (1959) criticises Ginzberg's theory as being too general in nature and argues that the theory is of negligible value for integrating present knowledge or stimulating further research.

Gottfredson (1981), relying on earlier self-concept research in vocational psychology (Ginzberg, Axelrod & Herma, 1951; Super, 1953), argued that career development is a progressive process of narrowing occupational alternatives according to emerging self-concepts. She hypothesised that a 'zone of acceptable alternatives' (p. 557) would demarcate the range of occupations an individual considers preferable from those that are ruled out as incompatible with how one has come to understand oneself. She presents a developmental theory of occupational choice, using extant research to support her model. She traces the development of occupational stereotypes, the sex role appropriateness of occupations, prestige striving, and vocational interests from age 3 to adult. Gottfredson places the development of these dimensions in a time-frame

suggesting that occupational sex type develops first between the ages of 6 and 8. Prestige striving develops next between the ages of 9 and 13, and interest in a particular career field develops after the age of 14. She argues that a person's view of occupations as sex appropriate or inappropriate is more influential in their ultimate vocational choice than either prestige or field of interest. According to Gottfredson's theory, by junior high school, students possess a framework for understanding what it means socially and economically to hold different jobs. This framework mirrors adult conceptions of the vocational world and can be illustrated as a map of social relations. One interesting element about this theory worth researching is the sex-role socialisation process as it limits the occupational choices considered by individuals.

Gottfredson (1981) suggested that the development of career aspirations is associated with a process of examining, eliminating, and retaining occupational alternatives, which she called circumscription. Individuals examine occupations on the basis of three salient criteria: (a) the prestige of the occupations; (b) the sex type (masculinity and femininity), and the interest of work (e.g. sales, engineering, medicine). The circumscription theory predicts that elements internalised at an early age (e.g. sex type) will be more resistant to change than elements internalised later in development. She said the factors of sex type, prestige, and interests are compromised in the reverse order to the effects on circumscription, therefore vocational interest is sacrificed first, job level second, and sex type last. Expanding the circumstances portion theory of Gottfredson (1981) helps identify young women who may not become part of a large group of women who seriously consider and understand the importance of their entry into non-traditional careers (Harmon, 1989). Another study using a forced-choice method was done by Hesketh et al. (1990). Australian participants were asked to indicate their preferences for occupational

prestige, sex type, and interest by rating on a number of preference scales. The findings of the study failed to support the prediction of Gottfredson's theory that sex type would be more important than prestige and interests. It was found that interest was the most important among the three variables, and prestige was more important than sex type. Again, interests are more important because they incorporate attributes that influence preferences at an early age.

Whether confirming (Henderson et al., 1988) or challenging (Hesketh et al., 1990; Hesketh et al., 1989) aspects of Gottfredson's theory, Lapan and Jingleleski (1992) support Henderson et al.'s (1988) endorsement of the potential usefulness of such a cognitive map to help clients challenge processes that underlie the premature elimination of occupational choice. The difficulty of measuring a construct such as a 'self-defined space of social relations' is seen as the major obstacle for expanding and applying Gottfredson's theory (Gottfredson, 1985; Hesketh et al., 1989; Leung & Harmon, 1990). Yet, Gottfredson failed to specify the presumably class-based self-concepts; perceptions of accessibility, or occupational aspirations that should be evident if she were correct in her views. As Osipow and Fitzgerald (1996) point out, social class does not only affect the availability of resources for career choice and adjustment behaviours. It also affects the network of attitudes, customs, and expectations that constitute the socio-psychological context of vocational development.

Leung and Plake (1990) focused on the importance of sex type and prestige in career decision-making. When subjects are faced with a variety of dilemmas in which they are forced to choose between giving up a certain amount of prestige or sex type, findings suggest that compromise decisions are influenced by the degree of contrast between sex type and prestige. However, in support of Gottfredson's

theory, Leung and Plake argued for an acceptable sex type boundary and a minimum level acceptable prestige boundary. Leung and Plake's (1990) findings support Leung and Harmon's (1990) emphasis on the importance of sex type and prestige as factors influencing career choice behaviours. Leung and Plake contended that counsellors should incorporate exploration of these background factors into the career counselling process.

Lapan and Jingeleski (1992) present data describing some of the systematic ways in which eighth graders may orient themselves to the world of work. Judgements of job-self compatibility factor into discrete regions across fields of occupational opportunities. Tracing these judgements over the Sex Type x Prestige Level map suggest in what areas and how vocational aspirations are constricted into 'zones of acceptable career alternatives' (Gottfredson, 1981). Lapan and Jingeleski (1992) support Leung and Harmon's (1990) findings on the importance of sex and prestige as factors in the career exploration process. They encourage the development of career counselling interventions that promote the proactive shaping of vocational choices as opposed to allowing students to passively adapt to solidifying patterns.

However, Roberts (West and Newton, 1983) challenges the theory on the grounds that it is of questionable validity and that basing practice upon the premises of the theory is likely to have unwelcome consequences. He argues that the main mistake of the theory lies in treating individuals' occupational choices as central to the course of vocational development. Individuals rarely choose jobs, they simply take what is available. Most workers tend to accommodate to whether jobs are available and adapt to the realities of the working world. Robert proposes an alternative theory of occupational choice based on

a key concept of 'opportunity structure'. Careers are seen as developing in ways dictated by the opportunity structure to which individuals are exposed. First, the level at which students enter the occupational hierarchy is determined primarily by their educational qualifications. Secondly, the aspirations of school children are moulded by schools themselves. Finally, upon entering occupations, individuals are further socialised to accept the particular working world they have entered.

4.3.2.2 Trait-factor Theory

The trait-and factor approach originates from Parsons (1909) and is based on the individual's vocational psychology differences. The theory advocated a straightforward matching of an individual's abilities and interests with occupational choice. It grew up from the needs of careers guidance practitioners who were trying to match the individual's personal characteristics with those required by the chosen or considered occupations. The logic behind it is that individuals differ in their aptitudes, interests, and personalities as occupations also differ in their requirements, in terms of traits and factors. An ideal choice would be the one that could match the individual's trait with the requirements of an occupation.

This approach is typified in practice by matching the interest and ability profile of the individual with the likes and the dislikes of different occupational groups or with the activity profiles of different jobs. It seems to have dominated the careers guidance scene up to the early 1950s (Hopson and Hayes, 1968). The trait-factor approach has been criticised as being theoretical, that it overlooks the needs of the individuals, and that it is very simplistic in differentiating between

occupational groups (Hopson and Hayes, 1968; and Crites, 1969). However, this theory has been described by Crites (1978: 51) as very convenient to practitioners:

As viable today as it was in the yesteryear, and it finds an expression, in one form or another, in most of the other approaches.

Our view is that such an approach, besides its other weaknesses, seems too idealistic. In periods of economic recession and mass unemployment, even if a matching profile has been defined and agreed upon, eventual job entry is far from guaranteed, even if that is supposed to be the purpose of the whole process.

4.3.2.3 Personality Theory

According to this theory, a person gradually evolves a model personality preference, leading to educational decisions for specific occupational environments. Eventually the person will then move within this occupational environment toward a career at a skill level appropriate to their abilities and achievements. The quality of this decision is related to knowledge of self and work. If either of these is limited, the person will have difficulty choosing a career. Holland (1976) indicates that consistent and congruent pairing of the individuals and the occupational environment is likely to result in stable vocational choice, higher vocational achievement, greater personal stability and greater satisfaction.

It is essential that any approach to the process of occupational choice should relate the aspirations and interests of individuals to the

realities of the occupational world, and Holland's approach appears to recognise this fact.

Holland (1966, 1976) has developed a taxonomy of occupations which he has attempted to relate to personality factors, and occupational choice is then seen as a move on the part of the individual to direct his particular interests towards one of a number of vocational areas. What is particularly interesting about Holland's approach is the way in which he specifies the fact that occupational choice is an ideal process and that in practice there are a variety of factors which will limit the working of the process, such as the amount of information available, and social environment and economic factors. Briefly, Holland's (1966:107) primary concepts are that:

- 1) most persons can be categorised as one of six types: realistic, investigative, artistic, social, enterprising and conventional;
- 2) there are six kinds of environment (as above) each dominated by a given type of personality;
- 3) most people search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles;
- 4) a person's behaviour is determined by an interaction between his personality and the characteristics of his environment.

The personality types are: (a) the realistic type - most receptive to masculine, pragmatic and non-social influences; (b) the intellectual type - most receptive to abstract, theoretical and analytic influences; (c) the social type - most receptive to social, humanitarian and religious influences; (d) the conventional type - most receptive to materialistic and social influences; (e) the enterprising type - most receptive to social, emotional, enthusiastic and materialistic influences; (f) the artistic type - most receptive to personal, emotional and imaginative influences.

The major occupational environments are: (a) the motoric environment - major occupations are represented by labourers, machine operators, farmers, truck drivers and carpenters; (b) the intellectual environment - major occupations are represented by physicists, anthropologists, chemists, mathematicians and biologists; (c) the supportive environment - major occupations are represented by social workers, teachers, vocational counsellors and therapists; (d) the conforming environment - major occupations are represented by bank tellers, secretaries, book-keepers and file clerks; (e) the persuasive environment - major occupations are represented by salesmen, politicians, managers, promoters and business executives; (f) the aesthetic environment - major occupations are represented by musician, artists, poets, sculptors and writers.

Holland and Gottfredson (1981) explain how Holland's theory of careers can be used to explain common career phenomena and concepts and to extend some of the ideas using more recent experience, data and thinking. Questions such as the following are looked at in detail: How does personal development, initial occupational choice, work involvement and satisfaction come about? Why do people change jobs? What influences their search for new jobs? Why do some people make occupational choices that are congruent with assessment data, while others do not and still others are undecided? The theory has been criticised because it explains little about the process of personality development and its role in occupational selection. Holland only reports the familiar characteristics of individuals holding the various orientations (Osipow, 1983).

Roe (1954,1956) has explored the relationship between personality and occupational choice. She proposes that individuals inherit the

tendency to react in certain ways. This coupled with childhood experiences, determines the general styles people develop to satisfy their needs throughout life, styles that have specific and major implications in career behaviour. The needs approach to occupational choice is based on the assumption that human needs are developed and ordered in a Maslow-style hierarchy, in which higher needs do not become important until the needs lower in the hierarchy have been generally satisfied. The notion of genetic influences on vocational decisions and the development of needs hierarchies are highlighted in her discussion. Roe has developed eight career groups; science, business contact, organisations, technology, outdoor, general cultural, arts and entertainment, and service. Within each group, there are six levels: professional and managerial 1 and 2, semi-professional, skilled, semi-skilled and unskilled.

Roe's theory suffers from a number of drawbacks. Recent research has shown that early experience may not be as important as she suggests in determining adult behaviour. Her sample was drawn from occupations predominantly in the highest socio-economic status category. Her work has also been criticised as naive in attempting to account for the complexities of occupational choice with the use of just one factor which is parent-child relationship (West and Newton, 1983).

One of the major criticisms is that the theory fails to cope with the details of the interaction between genetic and environmental factors. She assumes that individuals differ at birth and incorporates the effects of parental attitudes and behaviour styles. Thus the combination of the genetic features and the familial patterns lead to the prediction of vocational behaviour. Roe, therefore, says little about vocational development subsequent to the choice.

Moser et al. (1956) propose a modification of the Roe Occupational Classification according to the actual activity in which the individual is engaged: service, business contact, business organisation, technology, outdoor, science, general cultural and arts, and entertainment. This classification followed a study undertaken to determine how well judges using Roe's definitions would agree with her classification. The study discovered that judges using this modification were able to classify 200 occupations much more accurately than those judges who classified the same 200 occupations using Roe's original scheme.

Another important element in occupational decision-making processes is the fact that decisions not only involve internal subjective processes, but they are also based on objective social facts. Although both Ginzberg and Super do refer to the effects of the environment (e.g. parental socio-economic level and opportunities in the job market) in shaping people's occupational choices, it is within the context of the maturation of vocational thinking. Such factors are viewed in secondary terms within the context of the maturation of occupational choice-making ability. Roberts (1981) has questioned the whole notion of 'choice' in the developmental theories. Although not implying that people have no scope for individual choice, he questions the centrality of this view and has argued that social-influence factors are the major determinants of the occupations people enter. Thus, during the decision-making process the individual is constantly being guided, affected and influenced by other individuals, social groups, and more formal influences. The role and importance of such social structural influence is stressed by most of the more sociologically orientated occupational choice theorists as mentioned in the following section.

4.3.3 Sociological Theories of Occupational Choice

While psychological theories of occupational choice concentrate on factors internal to the individual, non-psychological theories centre around external influences as major determinants of occupational choice. Sociologists have criticised psychological theories for focusing too exclusively on the psychological factor of choosing, thereby diverting attention from the social and economic factors which condition such choices (for example Roberts, 1975; Ryrie, 1983). Most theorists acknowledge that socio-economic background and intelligence are important predictors of occupational aspirations. However, their theories largely ignore or minimise these variables (Osipow, 1973) and concentrate instead on what seem to be weaker predictors of aspirations, usually values and interests of youngsters and their parents. In his non-psychological perspectives on occupational choice, Osipow (1973) stressed the importance of environmental influences including social class, intelligence, and sex which are often taken for granted; he thought it would be useful to be able to systematically explain their importance. He agreed with the fundamental importance of self-concept in vocational development and believed that social class, gender and intelligence are prime determinants of both self-concept and the types of compromises individuals have to make in their occupational choice.

Most sociologists realise that developmental processes, personality variables, learning experiences and decision-making processes are important variables involved in occupational choice, but they are by no means the only ones. The role of variables external to the individual, such as social class and the opportunity structure have been shown to play a far more important role in shaping people's future, than most psychologists would like to admit.

In Great Britain, much of the research evidence into the career decision has noted the significance of factors relating to institutional, social, socio-economic and labour market forces (Carter, 1962; Maizel, 1965; Sawden et al., 1979; Ryrie, 1983; Banks et al., 1992; Furlong & Cartmel, 1995). While psychological models of the development of aspirations in young people have often tended to ignore the significance of local labour market (Markus & Nurius, 1986), recent sociological works lead us to expect important local variations. Roberts (1973) argues that the developmental theory of occupational choice could lead us entirely in the wrong direction. In particular, Roberts (1975 and 1981) rejects psychological theory and puts forward an opportunity structure approach whereby restriction of the individual school leaver, especially in relation to the local labour market and employers' recruitment practices, is such that 16-year old school leavers 'simply take what is available' in terms of jobs on leaving school. According to him, it is more important to know about job opportunities or a person's educational qualifications than it is to know about his or her occupational aspirations.

Careers, in this theory, are seen as developing in ways dictated by the opportunity structure to which a person is exposed - first in education and then in employment. The occupational aspirations and expectations of an individual are perceived to be influenced by the educational and employment structures through which he or she passes. Although the theory appears attractive, there is, unfortunately, as yet little research evidence to support it.

Blau et al.'s (1956) theory constitutes an attempt to combine psychological, economic and sociological variables. According to Blau et al., occupational choice is a developmental process that extends over many years. The process of selection (by persons whose actions

affect the candidate's chances of obtaining a position), as well as the process of choice, must be taken into account, in order to explain why people end up in different occupations. As far as the social structure is concerned, they view it as having a dual significance for occupational choice. On the one hand, it influences the personality development of the choosers and on the other hand it defines the socio-economic conditions in which selection takes place.

Ultimately, Blau and his colleagues presented eight factors which they considered determined entry: (a) four pertaining to occupations: formal opportunities (demand), functional requirements (technical qualifications needed), nonfunctional requirements (criteria affecting selection not relevant to actual performance such as status, good looks, etc.), amount and type of reward, and (b) four characterising individuals: the information people have about an occupation, technical qualifications, social role characteristics, reward value hierarchy.

To sum up, Blau and his colleagues view occupational choice and entry as a result of two different processes operating at the same time: the development of the socio-economic system and the development of the individual. Since the starting points of both processes lie in the social structure, and since most of the key points in the individual's continuum are of a social nature, it is obvious that the proposed framework is basically sociological.

Robertson & Symons (1990) developed a model of occupational labour supply based on optimising behaviour of far-sighted individuals. They concluded that individuals choose occupations on the basis of personal tastes and relative incomes in those occupations. They also

sought to take into account individual abilities and their effects on expected future income. They found labour supply to the various occupations to be quite wage-elastic. Also, socio-economic variables have a strong effect on occupational choice. In the context of career decision-making, value-satisfaction, rewards and preferences are assumed to play an important role in several theories of career development. However, in spite of value considerations, resources such as finance must be considered in making a career decision. Chapman (1983) emphasises that career rewards or opportunities for satisfaction, including earnings, impact on occupational choice.

There is a good deal of evidence available to show that the influence of family, and related social class, can be far reaching in its effect on the operation of the occupational choice process. Home background is an important factor in the socialisation process, and future occupational choice is closely related to the family situation of individuals. In theoretical terms the parents are seen as the bridge between the family and the economy since they perform roles within both systems.

According to Osipow's (1973) reality theory, circumstances beyond the control of the individual contribute significantly to the occupational choice they make, and the principal task confronting youths is the development of techniques to cope effectively with their environment.

Caplow (1954) states that the occupation of the father determines that of the son. Caplow cites occupations such as farmers, miners, mill operators or fishermen which inhabit psychologically isolated milieus which he thinks tend to exercise some restrictions on the children's choice of occupation. Caplow believes that the principal device for the

limitation of occupational choice is the education system; education forces the student to embark upon certain subjects specialisations.

Hotchkiss and Borow (1984) support Caplow's view of the influence of parents on their children. Education, occupation, and income are passed down from one generation to the next by a sequence of interpersonal processes. Parental status in particular indirectly influences the status achieved by their children. Attitude characteristics of different status levels are passed more directly from parent to child than through peers of similar background. Such significant interpersonal relations with others help to shape the career plans of youth. Kotrlik and Harrison (1990) concluded their study stating that students perceive that their parents influence their career choice more than any other person, and the mother is more influential than the father. Most students also perceived that their parents, teachers, and counsellors were all encouraging college attendance after graduation from high school. Interest in the work, working conditions, salary or wages, and personal satisfaction were the leading factors considered by students when selecting a career. Again, the life experiences of students have been determined in part by the families of which they are members, the communities in which they live, and the schools that they attend (Odell, 1988). These life experiences manifest themselves in the educational and occupational expectations of students.

Occupational choice is generally regarded by such theorists as a process of interaction between aspirations and expectations, self analysis and influence, and opportunities and experience, and as Sofer (1970) has indicated, the occupational decision itself will be affected by such factors as the amount of information available, the opinions and influence of key persons to whom the individual is

exposed, formal careers guidance, and the state of the labour market. Keil et al., (1967) stated that the evidence from a wide variety of research suggested that family, neighbourhood, peer group, education received, influences from the mass media, job search method and the extent of formal careers guidance all need to be considered, and that experience from these factors, as well as the nature of the work undertaken, are relevant to the development of any particular reaction towards working life. This implies that entering the world of work and adjusting to it is a process.

In the field of occupational choice it is impossible to a large extent, to set distinct boundaries between the two disciplines. Crites (1969) accepts that, from the sociological perspective, the major factor in the determination of an individual's occupational choice is the impact of the culture and society in which he lives, upon the goals and objectives he learns to value. Sofer (1974) says that sociologists realise that personal preference is only one of several variables affecting the way a person opts when faced with concrete alternatives, and that choices are not necessarily systematic but the result of external social influences and institutions which canalise people toward different occupational streams. According to Speakman (1976) sociologists tend to be interested in how types of people tend to enter certain types of work, whereas psychologists are interested in how an individual comes to enter one from amongst the range of jobs available. Besides, the central issue for most sociologists is not how the individual chooses his job but how social processes, like the transition from school to work, take place in a social system, or how the youth labour market is structured, or even how social reproduction and recruitment come to be realised.

4.4 Related Studies

Much discussion in the literature today centres on the relationship between supply and demand elements of manpower. Important questions about the formation of vocational preference among students from developing countries have been relatively unexamined. This section of the literature review focuses on studies of occupational expectations and studies relating occupational expectation or aspiration and manpower needs. Most of the literature that does exist focuses on the factors affecting occupational expectations of students. Very few studies examine occupational expectations of students and relate them to manpower needs.

4.4.1 Studies of Occupational Expectations

Studies of occupations are important to the research because they examine a variety of factors that affect occupational expectations of students. Some of the factors are: rural-urban, gender, socio-economic origin, familial orientations, school environment and occupational earning.

Apart from the above, Mullet, Neto, and Henry (1992) studied occupational preferences and their determinants among 1278 5th-year students (15 to 16 year olds). The data showed that students who were classified into the high SES group (parents who were professionals, teachers, engineers, technicians and skilled workers) preferred more prestigious jobs than those categorised in the low SES group (parents who were employees and farmers). Students within the high SES group also preferred jobs which were viewed as being the most difficult to enter and the least accessible.

Mau et al. (1995) sought to determine characteristics of female students who tended to aspire to science and engineering occupations rather than homemaking occupations. Their sample was composed of 930 eighth-grade female students whose data was part of the National Educational Longitudinal Study of 1988. These investigators concluded that female students who aspired toward science-engineering occupations evidenced higher social class scores than those not aspiring toward these occupations.

In several communities in Nigeria, making an occupational decision is synonymous with a betrothal procedure, which involves seeking the consent of parents, uncles, nephews, and other significant relatives, and friends of the family. Denga (1988) did a study on the influence of traditional factors on occupational choice among Nigerian secondary school youths. The thrust of his study is on traditional factors, a departure from the conventional factors fully known in the Western world. After collecting data on factors that influence career decisions among Nigerian youths, the traditional factors were identified and isolated from the psychological factors. The traditional factors included societal prestige, family occupation, religious beliefs, social mores and values, and the creativeness of a career in terms of salary earnings. The psychological factors included aptitudes, interests, ability and personality characteristics.

The study identified that traditional factors rank very high on the list of factors influencing career choice. Parental dictates based on traditional values have had a significant impact on occupational choice. The study found that parents' traditional values, societal rating of occupations on prestige grounds, family stereotyping of occupations for male and female children, religious convictions, and personal values exert a noticeable influence on the career choice of

children. Furthermore, Denga (1988) indicated that most parents become involved in the occupational choices of their children to ensure that their own occupational dreams are fulfilled by their children. Those parents who did not have opportunities to receive a good education and obtain careers of their choice tend to influence their children to enter those occupational tracks that the parents would have entered had they qualified for them.

Two studies investigated family functioning and occupational choice. Penick and Jepsen (1992) found that perceptions of family functioning were better predictors of vocational identity and career planning involvement than gender, socio-economic status, or achievement. Gordon (1991) demonstrated that adults who had experienced family discontinuity and who had established themselves in successful careers were more likely to be 'counterstrivers' and innovative problem solvers.

Astin (1967) examines the patterns of career changes of a sample of 19,352 boys and their levels of educational attainment in 1960 and again in 1964. The study identified consistent patterns of career change due to the environmental and cultural influences determining career development. The educational curricula encouraged students to take up pragmatic and applied careers, such as business and education, rather than theoretical and research-oriented careers. The number of students aspiring to careers in medicine, dentistry, law and engineering were limited due to the need for early commitment and highly specialised training. These findings have been interpreted on the basis of the personal characteristics of students, their perception of occupations, and the societal determinants of occupational choice. Changes in occupational aspirations over time are of interest both to occupational theories, and to those concerned with manpower

planning because they have implications for manpower policy-making, and help the occupational theorists to develop new hypotheses about occupational choice.

Rural or urban residence has been shown to be related to the educational and occupational expectations of youth (Moore et al., 1984). They found that adolescents from large urban communities thought more highly about themselves than did adolescents from rural communities. However, similarities were found between rural and inner-city youths with both having lower self-esteem than other urban and suburban youths. Jung & Miller (1990) reported no relationship between either educational or occupational aspiration and location; however, McCracken and Barcinas (1991) concluded that students from urban and rural areas differed little in their levels of occupational aspiration. Urban students have higher educational and occupational aspirations than rural students. Students from rural areas will need to leave their communities to fulfil their occupational aspirations. Again, students in rural areas have lower income expectations than students in urban areas. This may be due to the differences in pay scale for average workers in the two locations. Rural students do not observe as many high-income workers as urban students. Another study on rural-urban comparison of the occupational status by Kuvleskey and Ohlendorf (1968) indicates that urban boys maintained generally higher goals and expectations than the rural. Rural-urban differences were greater for goals than for expectations. Rural and urban respondents were found to experience very similar goals but differences were observed with reference to the nature of anticipatory deflection experienced.

The influence of the school was considered in terms of the attitudes that students expressed to it and how they felt about the prospect of

leaving at the end of the year. The influence of teachers was considered to the extent to which they were consulted by the year 10 students about their vocational futures (Stevens and Mason, 1993). Occupational choice is a significant dimension of a student's life, yet in spite of the positive feelings that have been expressed by most students in relation to a small Western Australian school, it appears that its influence on the vocational aspect of its young people's lives was not strong (Stevens and Mason, 1994).

A study conducted by Takei, Bock and Warland (1973) examined the attitudes of Malay youth of low social class origin for whom the government provided opportunities to experience upward mobility. Information on students' socio-economic aspirations and realistic expectations were gathered. The study concludes that there was little difference between male Malays and Chinese by social class origin regarding occupational expectations. The Chinese tended to select the professional-technical occupations more than the Malays, while the Malays chose the proprietor, manager and executive more than the Chinese. Occupational expectations for both races were lower than aspirations, and the pattern was more pronounced among Chinese than among Malays. Contrary to the belief that Malays were frozen into their social class origins, the data collected indicate the opposite finding. The Malay males who were enrolled in secondary schools tended to have higher occupational expectations than the Chinese. The influence of social class background on educational aspiration was weaker for the Malays than for the Chinese.

Falmer and Chung (1995) investigated the variables associated with career commitment (i.e. the importance placed on pursuing a particular career), mastery motivation (i.e. motivation to engage in or complete difficult and challenging tasks) and career aspiration (i.e. the

prestige level associated with one's ideal occupation) which have been positively linked with later achievement levels among 47 male and 41 female undergraduates enrolled in an introductory psychology course. The only significant result involving social class was that mother's education level was a significant predictor of mastery motivation.

West and Newton (1983) in their examination of the reasons for occupational choice found that 'inner-directed' reason (interest, likes or abilities) are the most important factors. 'Tradition-directed' response (family member does it, friend does it) are also important. They also found that streaming has some effect on occupational choice. Students from streamed schools are more likely than those from schools organised on a mixed ability basis to choose higher status jobs. Within the streamed schools, the high achievement classes are more likely than the low achievement classes to choose higher status jobs. Contrary to West and Newton's findings, Poole (1985) argued that parents are the major source of help and influence regarding job decision among adolescents. On the other hand, school type differences are not great on the whole. Nor are sex differences, although males at age 17 are more likely to rely on self. With increasing age there is less reliance on parents and greater reliance on self. Pool indicates that adolescents are very keen for schools to provide significantly more help in their career or job decisions.

Occupational choice may be made on the basis of self-knowledge and self-awareness as the developmental theory suggests. Also, in line with the psychological theory, there is some matching of jobs and the individual's interest, likes and abilities. It is also found that young people tend to choose the same type of jobs held by their parents. Other factors such as SES, rural-urban, the school environment, personal attributes and the local job situation can also influence the

occupational choice of students. This study explores the influence of some of these factors on the occupational choice of vocational students in Malaysia.

4.4.2 Studies of Manpower Needs and Occupational Expectations

A review of the literature on the studies of manpower needs and students' occupational expectations provides a detailed explanation of the career expectations or aspirations of the students and their relationship to economic needs.

Research by Owuananan (1982), Sands (1978), Abiri (1977) and others reveals that secondary school students in Nigeria tend to have unrealistically high educational and occupational ambitions. The upwardly distorted educational system, narrow range of available careers, inadequate career information and limited vocational guidance have frequently been cited as reasons why Nigerian youths manifest these unrealistic career ambitions. Geo-Jaja (1989) reported these educational choices and occupational expectations are independent of the young people's natural abilities and social class, as well as the economy's growth rate. They also have little relevance to national manpower needs.

Occupational choice is a difficult challenge to all young people, but especially to those in developing countries as their environments change from simple into more complex cultures. The traditional occupational matrix is being revolutionised and the number of possible occupations is multiplying. Choice is made more difficult by the fact that young people's exposure to the range of new occupations

available in their world is limited during the tenure of their education. Those occupations they know and accept as prestigious tend to be already in excess supply or do not meet the needs of the developmental goals.

Even if they were aware of a broader range of occupations, they would still be ignorant of the preparation requirements, the point of entry to the occupation and the extent to which they as individuals would be able to get access to the jobs if they had the necessary preparation. The transition from school to work has also been very difficult for all youths, especially those in rural areas due to the lack of congruence between education and the world of work. The failure to achieve a match between education and the labour market can further be blamed on outdated educational systems which do not conform to the immediate needs of society and the phenomenon Tinbergen (1975) described as the race between education (supply) and technology (demand).

Studies by Geo-Jaja (1989) in Nigeria, Klingehofer (1972) in Tanzania and Wellings (1982) in Kenya, found youths' aspirations to be unrealistic and educational systems inadequate to prepare youths for national needs. The Nigerian educational system does not conform to the environment nor to the nation's socio-economic problems. One of its deficiencies is lack of vocational information which would facilitate vocational decision-making. There is thus a great need to develop vocational and occupational educational information for students of all interests and abilities, particularly those in rural areas. Such information should cover occupational opportunities, job descriptions, projected job demands and the current manpower needs as indicated in the National plan. Therefore, it is incumbent on the Federal, State and local governments' educational policy makers to formulate

comprehensive career education programmes that offer a wide range of options for youths in accordance with individual abilities, interest and aptitudes. The study substantiated that students' occupational aspirations were inconsistent both with the manpower requirements of the Fourth National Development Plan and the existing labour market realities. Students' aspirations were professionally oriented while the labour market was technically oriented.

Zajda (1979) surveyed Siberian secondary schools in an attempt to discover a correlation between the students' vocational dreams and their actual employment several years later. The surveys, by means of questionnaires and interviews, were conducted among students completing the ten-year school (aged 17). The first survey was to ascertain the students' future plans, hopes and aspirations and to test their attitude toward various occupations. The other study was a follow-up of the students' achievement of their professional ambition. In terms of overall prestige, technical occupations received the first choice, followed by humanities and science. The government placed technology as the first emphasis followed by humanities and science. The studies show that there existed a vast gap between the career aspirations of youths and the actual needs of the Soviet economy.

Clark (1983) did a tracer study on how secondary school graduates in Indonesia performed in the labour market. The study selected cohorts of primary, lower secondary and upper secondary school-leavers for two years after graduation in 1976. The schooling, training and job experience of the cohorts were used to measure both the overall effectiveness of senior secondary education as well as the relative effectiveness of different types of schools at the senior secondary level. Virtually all senior secondary graduates who wanted to work were eventually absorbed into jobs, at pay rates that were higher than

among those with lesser education. Even with long waits for graduates to get jobs, senior secondary education was a good investment and warranted expansion. The importance of the study is a better understanding of the process by which new graduates in Indonesia particularly from senior secondary school move from school to work.

Within the Malaysian context, there is insufficient information on the extent and nature of the relationship existing between occupational choice and national manpower requirements to enable us to draw any firm conclusions. Recognising the need for figures in planning purposes, the Government had, in the past, attempted to forecast manpower requirements at the national level. These projections had been useful to a certain extent in highlighting the growing importance of skills needed for the medium and long-term, especially for the professional, technical and production workers. One of the efforts done in forecasting manpower needs at the national level is the Manpower Survey 1973.

This survey was conducted in different stages to cover both the private and public sectors in Peninsular Malaysia, Sabah and Sarawak. It formed the first comprehensive effort at long-range manpower forecasting in the medium- and long-term. The medium-term forecast was based on employers' assessment of their future manpower needs from mid-1973 over the next 2-3 years. To complement this assessment, an analysis was undertaken to project the nation's long-term manpower requirements for 1980 and 1990, using the manpower requirement approach (MRA) method. The survey collected information on vacancies and shortages in the public and private sector. The survey showed an overall vacancy rate of 5.9 percent in 1973, indicating that both sectors were constrained as to the educational qualifications of the employed, by occupation and race, so

had to examine the relationship between occupation and education and to convert future occupational forecasts into educational needs. This survey provided the information needed for the planning of human resources for the Third Malaysian Plan (1976-1980) and for the perspective plan period (1971-1990). The report of Manpower Survey in Malaysia (1973) analysed the manpower situation in the nation for that year. It provided data on the stock of manpower by economic sectors, occupations, race and level of educational attainment; the extent to which the supply of trained personnel in key occupations fell short of requirements; the utilisation of output from vocational training institutions; the extent to which the private sector undertook on-the-job training; and the requirements of manpower by sector as forecast by employers.

4.5 Careers Guidance: Some Theoretical Considerations

Phrases such as careers guidance which have a general currency in the English language often appear deceptively easy to define. In practice their definition can be problematic and depends on the viewpoint regarding occupational choice of the person seeking a definition. The important thing about theories of occupational choice and career decision-making is that they have implications for the practice of careers guidance.

Super and others, those concerned with guidance, have attempted to assist young people with the development of self-concepts, and with the making of choices and decisions. Thus, for example, one of the basic British texts on careers guidance (Hayes and Hopson, 1972) claims that Super's theory provides a useful framework for vocational guidance and sets out to examine in more detail the role of the self-

concept in vocational development. The book then goes on to suggest various ways in which young people's self-concepts can be developed through careers guidance programmes in schools. There is emphasis, too, on what is termed 'occupational information' but this is defined as information which facilitates the development of realistic expectations about an occupational role in terms which will enable the individual to test out his congruency with his self-concept. Contact with careers guidance practitioners and a study of the materials they use further illustrates the close relationship between careers guidance work and the theory of occupational entry which emphasises occupational choice based on self-concepts.

For their part those who emphasise the major importance of the opportunity structure as a factor in occupational entry have been attempting to influence the practice of careers guidance. They argue that although guidance has emphasised 'occupational information' of a certain kind, it has not taken sufficient account of the reality of local markets, and so has tended to mislead some young people. Roberts (1977) was determined that guidance should concentrate not on raising unrealistic expectations, but on helping people to adjust successfully within the opportunity structure open to them. He considered that concepts of occupational choice were generally translated into practice as taking what is available. Other outlooks have emphasised the need of careers guidance to take account of the local, regional and national employment situation (Ford, 1976), and to be based on localised, up-to-date accurate information, without which careers education would appear to be a doubtful activity at best (Reubens, 1977). Daws (1977) and Herron (1975), stressed that the task of guidance is not to ignore the question of available opportunities, but rather to broaden young people's awareness of opportunities, so that they are not prevented from entering appropriate occupations, either by an excessively narrow geographical

horizon or by too limited an understanding of themselves and their own potential. According to this view, Moor (1976) stressed that one of the main purposes of careers guidance is to maximise the range of career opportunities from which the pupil can choose. Those who emphasise the opportunity structure, however, argue that this approach is both unrealistic and excessively individualistic, and that careers guidance should see its function as helping people to understand and come to terms with the reality of the world as it is. How careers guidance operates in practice depends, to some extent, therefore, on which of these viewpoints its practitioners adopt.

The third theoretical approach to the question of occupational entry also has potential implications for vocational guidance, although these are less often discussed. If it is true that, by their definitions of ability, their assessments and their sorting and differentiating of students, schools have a determining effect on the positions and the types of occupation available to young people on leaving school, then guidance can encourage people either to accept or to question the kind of future towards which the schooling process is pointing them. The fact that there is little evidence that guidance practitioners make a practice of encouraging young people to question the schooling process and its outcomes does not mean that there is no important issue involved. It merely means that the issue is seldom faced.

The three different theories about how young people come to occupy varied positions on leaving school, then, all have implications, directly or indirectly, for the practice of careers guidance. Together they raise the question, which will be a central one in this study, of the extent to which the individual is free of determining forces in the educational and employment systems. Is the individual to be encouraged to choose, to decide for himself, and to seek self-fulfilment and self-

discovery in a world of opportunity and openness; or should they be enabled to accept, either knowingly or unknowingly, the limitations of a predetermined situation which they cannot hope to change? Much of what happens in education in general, and in guidance in particular, depends on the answer to this question.

4.6 Conclusion

At the individual level, choices of expected occupations vary from person to person. Various theories of occupational choice have tried to explain the phenomenon, but each theory has its limitations and strengths. However, all these theories hold certain elements in common. The common elements are: first, career choice is a process rather than an event; second, career development consists of a series of stages which can be identified; third, career decision-making consists of many compromises for both the individual and the career for example, different personalities are attracted or repelled by certain occupational environments, needs affect career choice, and the self-concept is influenced by contact with others and change throughout life. An important implication of the various theories is that once a person knows what his or her available choice may be (even though the person is undecided) the answer will likely be his or her eventual choice.

However, the psychological approaches were shown to concentrate on, for example, the developmental nature of the process (emphasising the personal growth of individuals in emotional and intellectual terms), and the motivational nature of occupational choice (emphasising individual needs, desires, hopes and aspirations). The approach of the economists to occupational choice was discussed briefly in terms of

the theory of total net advantage. The contribution of sociologists reflected the importance of the processes of socialisation and of the allocation of occupational roles, and emphasising those aspects of the social structure which represented both influences and constraints on the occupational choice process (for example, the family, the education system, the peer group and formal guidance agencies).

Research on careers guidance techniques indicates that interventions have received mixed support. Investigation of social influence characteristics in careers guidance is an excellent sign of progress in examining the process of career counselling. Spokane and Fretz (1993) have established a useful paradigm to study this in 40 cases. This study explores the influence of some of these factors on the occupational expectations of vocational stream students in Malaysia. The next Chapter, therefore, examines the methodological aspect of the study which attempts to examine the relationship between manpower needs and students' occupational expectations.

CHAPTER FIVE

METHODOLOGY

This chapter focuses on the methods which were used in the study. The sub-topics described are: introduction of methodology, research strategies, overview of research design issues, quality in triangulation, sampling procedure, negotiating entry into the field, data collection methods, data analysis and an anecdote of this study.

5.1 Introduction of Methodology

There are various ways of accomplishing research such as philosophical inquiry, qualitative or quantitative methods, or a combination of them. This establishes how one will go about studying any phenomenon. In social research, examples of methodologies are positivism (which seeks to discover laws using quantitative methods) and, of course, qualitative methodologies (which are often concerned with inducing hunches from field research). Methodologies gather required information through their specific procedures. These include quantitative techniques, like statistical correlation, as well as techniques like observation, interviewing and audio-recording. In themselves, techniques are not true or false. They are more or less useful, depending on their fit with the research questions, theories and methodologies being used. Each researcher has to find an appropriate approach to work on his or her subject or proposition. Recently, qualitative research strategies have shown considerable potential for contributing to educational theory, policy and practice in developing countries (Finch, 1986). This gap in research was summed

up by Vulliamy (1990) when he stated that there is a large body of literature on social science research methods in developing countries but very little has been written specifically on the value of qualitative educational research in those countries.

Such methods are particularly suited to the study of the processes of schooling and to the evaluation of innovations, where divergence between policy and practice can be highlighted through a sensitivity to the unintended, as well as intended, outcomes of innovation. By providing analyses which are strongly related to the cultural context of schooling, qualitative research can also play a useful role in identifying the most appropriate questions to address in large-scale quantitative research studies. My exposure to, and immersion in various literature on the occupational choices of school-leavers found that most research is carried out using a qualitative approach. According to Denzin and Lincoln (1994), qualitative research is multi-method in focus, involving an interpretative, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them.

Qualitative research has no sharp boundaries. In other words, it can include a variety of approaches with whatever suitable tools and interpretations are specifically required by the researcher. Indeed, the choice of research practices depends upon the questions that are asked, and the questions depend on their context. It is believed that the achievement of qualitative research represents the researcher's understandings, insight, observations and interpretation of the world and also the social processes under analysis. Whereas, quantitative research is usually concerned with mathematical models, statistical tables, graphs, and is often impersonal. Lewin (1990) in his respected rationale stated that combinations of qualitative and quantitative data

could be strong in depth and help interpret the specific. Quantitative data might be better in stabilising the extent to which insights were generalised to a wider population of school teachers and students.

I have come mentally geared towards quantitative research. In a way, I am struggling with an assumed hypothesis of manpower needs and occupational expectations and convinced of the necessity of a scientific inquiry into my research problem. I realised that through my readings on methodology and also influenced by my post-graduate colleagues, I had become convinced that the quantitative-analytical approach that I had used before was limited and likely to provide me with evidence which was only partial and not all-encompassing. Further readings on qualitative research that I made, especially by Vulliamy (1990) 'Doing Educational Research in Developing Countries' and Finch (1986) 'Research and Policy: The Use of Qualitative Methods in Social and Educational Research' that were suggested by Professor Len Barton led me to the description of qualitative research as in-depth analysis and description of the social world. It seemed to provide a balance to the 'hard facts' scientific inquiry can generate. But then, I can argue here firstly, there is no rule that says that only one method must be used in an investigation. Using more than one method in an investigation can have substantial advantages, even though it almost inevitably adds to the time investment required. Secondly, the main advantage of employing a combination of methods is commonly cited as permitting triangulation. Triangulation, in surveying, is a method of finding out where something is by getting a 'fix' on it from two or more places. Analogously, Denzin (1994) suggested that this might be done in social research by using a combination of different sources (e.g. informants), methods, investigators or theories.

5.2 Research Strategies

Many studies of young people have tended to favour qualitative approaches, seeking to understand the subjective experiences of those people being interviewed. This has become associated with a more 'feminist' or 'radical' approach to social science (Stanley and Wise, 1983). However, this assumes that samples are fairly small and it also makes it difficult to generalise trends. In this research I had combined this kind of approach, which involves quantitative survey data and lengthy in-depth interviews. Thus, qualitatively derived insights could be tested against the large sample, whilst excerpts from interviews and research situations could be fitted into a framework of general trends.

The research problems were tackled mainly by a qualitative method and were enhanced by quantitative evidence to buttress and perhaps clarify the account. Denzin (1978) and Rossman and Wilson (1984) have argued that data from different sources can be used to corroborate, elaborate or illuminate the research in question.

The main participants in this study were Form V vocational stream students. A qualitative approach was used as it allowed for an in-depth study of a small participant sample of students, careers guidance teachers, Technical and Vocational Education Division (TAVED) officers and Educational Planning and Research Development (EPRD) officers. To achieve the depth of meaningful conclusions sought, the topic of the research demanded that the main focus be the students' perceptions of occupational choices. A semi-structured interview was conducted to provide both students and teachers an opportunity to define their own status perceptions of occupational expectations. In order to construct a rich picture, interviews,

questionnaires, documentary analysis, and a fieldnotes were used as means of collecting the data required for this study.

5.3 Overview of Research Design Issues

There are a number of requirements that must be considered when one plans to embark on a research effort. These requirements are commonly referred to as research design and methodology. Briefly, they involve clarifying the general aims of the exercise, justifying why that particular topic has been chosen and how one plans to proceed so as to fulfil one's aims.

The research design and objectives were formulated on the basis of the literature review.

1. From the literature review, certain variables come up most frequently. The variables are rural-urban, sex, socio-economic origin, manpower needs, familial orientations, school environment, occupational earnings, occupational structure and other social and economic variables. Previous researchers have incorporated these variables in their studies. Zajda (1979), Geo-Jaja (1986) and Aziz et al. (1987) examine the relation of occupational aspirations or expectations and occupational structure or manpower needs. A study by Takei, Book and Warland (1973) examined the influence of social class background on the educational aspirations of Malaysian students.

2. The sociological approach selected was related to Caplow's (1954) view of the sociological theory of occupational choice which

forms the conceptual framework of the study. Sociological theory of occupational choice states that aspects of society are the prime determinants in the choice of a career. Caplow believes that the principal device for the limitation of occupational choice is the education system; education forces the student to embark upon certain subject specialisations. Caplow (1954: 220) claims that:

Occupational choices are made in the schoolroom, under the impersonal pressure of the curriculum, and remote from many of the realistic of the working situation.

Occupational choices are being made at a time when the student is remote from the world of work. They are made in terms of school requirements and are unrelated to the student's eventual job.

3. The research objectives are relevant to the problem to be studied within the Malaysian context. Manpower projections at national level, are most often used to guide educational planning. In planning for social and economic growth, human resources to undertake the necessary jobs must be available. Every five-year development plan in Malaysia has devoted extensive coverage to manpower planning. Using the projections of manpower needs where future demands and supply of workers in different occupations are calculated, future areas of needs can be outlined and new programmes for technical and vocational training can be developed. Long term projections of manpower requirements are also useful for educational planning. The future manpower needs or requirements can determine the structure and content of schooling and vocational education programmes that are to be offered. Furthermore, with information about future imbalances in manpower requirements, the need for vocational training to meet the expected demand for skilled and semi-skilled workers can be evaluated for different occupations. Accurate data on future occupational demand will provide information for careers

guidance in secondary vocational school to help students make realistic occupational choices.

4. The area of occupational choice poses considerable challenges for the study. For example, the difficulties in evaluating the influence of careers guidance input on individuals' actual occupational choices and the particular jobs entered have been recognised. Thus there has been a tendency in recent years to pay particular attention to either the decision-making process itself, and the skills and knowledge which the student needs to acquire in order to make a wise decision, or to the student's actions at particular points of choice and the significant influences at such times.

5. Until recently, there has been a tendency for a large proportion of researchers in this field to concentrate upon the investigation of the relationship between manpower needs and students' occupational expectations in our schools and society. The reasons are understandable. Furthermore, the field of occupational expectation or choice has as yet been relatively unexplored in relation to important and diverse variables or factors that might be related to the national manpower needs.

At present, researchers who have attempted to relate occupational expectation and choice to other variables have differed, usually depending on their academic discipline, in their selection of those variables. Psychologists have typically studied the influence of personal factors, such as intelligence, personality and interest, whilst sociologists have preferred to investigate environmental characteristics such as social class, racial backgrounds and home background. Only rarely has there been a comprehensive

investigation of the relationship of sociological factors of occupational choices and national manpower needs under study.

5.4 Quality in Triangulation

Triangulation provides researchers with several important opportunities. It allows researchers to be more confident of their results. This is the overall strength of the multi-method design. It can stimulate the creation of inventive methods, new ways of capturing a problem to balance with conventional data collection methods. Different viewpoints are likely to produce some elements which do not fit a theory or model. Thus, old theories are refashioned or new theories developed. Moreover, divergent results from multi-methods can lead to an enriched explanation of the research problem.

Linking all of these benefits is the important part played by qualitative methods in triangulation. The researcher is likely to sustain a valuable closeness to the situation which allows greater sensitivity to the multiple sources of data. Qualitative data and analysis function as the glue that cements the interpretation of multi-method results. In one respect, qualitative data are used as the critical counterpoint to quantitative methods. In another respect, the analysis benefits from the perceptions drawn from personal experiences. Thus enters the artful researcher who uses the qualitative data to enrich and brighten the portrait. Finally, the convergent approach utilises qualitative methods to illuminate 'behaviour in context' (Cronbach, 1975) where situational factors play a prominent role. To sum up, triangulation, which prominently involves qualitative method, can potentially generate what anthropologists call holistic work or thick description. As Weiss (1968:345) concluded:

Qualitative data are apt to be superior to quantitative data in density of information, vividness, and clarity of meaning - characteristics more important in holistic work, than precision and reproducibility.

Although qualitative research design is built primarily upon participants' interviews, the method can be supplemented by other data-collection procedures. In this particular study, the use of multiple data collection methods was used for triangulating results. The study believes that triangulation can be something other than scaling, reliability and convergent validation. It can also capture a more complete, holistic, and contextual portrayal of the unit(s) under study. That is, beyond the analysis of overlapping variance, the use of multiple measures may also uncover some unique variance which otherwise may have been neglected by single methods. It is here that qualitative methods, in particular, can play an especially prominent role by eliciting data and suggesting conclusions to which other methods would be blind. Elements of the context are illuminated. In this sense, triangulation may be used not only to examine the same phenomenon from multiple perspectives but also to enrich our understanding by allowing for new or deeper dimensions to emerge.

Overall, the combination of methods can also be used for complementary purposes to enhance interpretability. For example, in a primarily quantitative study, the interpretation of statistical analyses may be enhanced by a qualitative narrative account. For this study, a qualitative account was the major outcome, but it will be enhanced by quantitative evidence used to support and perhaps clarify the account. It should be understood that the qualitative results were used largely to supplement the quantitative data, rather than the reverse which is far more common in research. The surveys became more meaningful when interpreted in the light of critical qualitative information just as other statistics were most useful when

compared with interview results. However, Blaikie (1991) is one of several critics of this approach, arguing that it is inappropriate to combine methods based on different theoretical positions. My position on this argument is that we should choose methods that are very different from each other to get a better insight of the answer. Again, methodological triangulation is a useful strategy if the findings are to produce statements that are more reliable. Finally, triangulation is not an end in itself and not simply a fine-tuning of our research instruments. Rather, it can stimulate us to better define and analyse research questions.

5.5 Sampling Procedure

Sampling techniques are employed due to factors of expense, time and accessibility to obtain data from a population. Cohen and Manion (1994) clearly divide sampling techniques into two main methods, namely probability sampling and non-probability sampling. However, it is argued that the sample must be defined for every survey conducted. Sampling is proper and vital if the entire population is large but if the population is quite small and the researcher could meet the demands for the mentioned factors, it would be more appropriate to use the whole population. Furthermore, if a sampling technique is adopted, it does not guarantee the return of all questionnaires as the respondents have the right to refuse to answer the questions.

However, having chosen to adopt a mainly qualitative approach for this study a decision had to be taken on the scope, that is geographical coverage, of the investigation. Although qualitative research is often concentrated in one particular area, this does not

necessarily have to be the case. It would have been possible, bearing in mind Marsh's (1982) point about being able to generalise from any research, to collect data in qualitative mode from a representative cross-section of respondents from a wider area. However, in this study, I found difficulty in investigating the entire population of vocational stream students and had to limit my investigation to a small number of participants. The participants were representative of secondary vocational schools in Peninsular Malaysia. Since adequate resources for country-wide student participants were not feasible, the study selected three states from Peninsular Malaysia - Johor, Kuala Lumpur and Perak. Selections were based on the geographical region with various cultural representations (industrial area/non-industrial area), ethnic mix, socio-economic type (rural/mixed/urban), and the roles of careers guidance systems to fulfil the requirements of the study. Secondary vocational schools from each of the three states were randomly selected using a cluster random sampling method. In total one secondary vocational school from each state was randomly selected namely: (a) Muar Secondary Vocational School, Johor (b) Setapak Secondary Vocational School, Kuala Lumpur and (c) Ipoh Secondary Vocational School, Perak. In all cases these students were at a critical decision-making point in their educational and occupational choice and also at a point where they had to make concrete decision about future goals.

The main participants in this study are Form V vocational stream students. 420 Form V vocational stream student participants were selected to represent the population of 3 secondary vocational schools in responding to the students' questionnaires as shown in Table 5.1. Each secondary vocational school has 7 Engineering Trade courses that are: Electrical, Electronics, Machine Shop Practice, Welding and Metal Fabrication, Automotive, Building Construction, and Air-conditioning and Refrigeration. However, in the sample school only

Muar Secondary Vocational School has Home Science courses that are: Catering, Needlework and Tailoring, Beautician, and Bakery and Confectionery. Whereas the other two secondary vocational schools have Commerce courses that are: Office Management and Business Management.

Table 5.1: Sampling Distribution of the Study

State	Number of Vocational School	Sample of Vocational School	Sample of Form V Vocational Stream Students		
			Engineering Trade	Commerce	Home Science
JOHOR	8	1	70	-	90
KUALA LUMPUR	2	1	70	60	-
PERAK	8	1	70	60	-
TOTAL	18	3	420		

For interview purposes I had invited one student from each course. In total, 28 vocational stream students had taken part. The rationale for selecting twenty eight student informants is simply one of time constraints. I had to arrive at a 'feasible' number bearing in mind the length of time required for undertaking the discussions, subsequent analysis and eventual writing up. The proposed number of senior careers guidance teacher participants is one from each secondary vocational school selected. Other participants in this study were two senior officers from the TAVED, Ministry of Education Malaysia, and two senior officers from the EPRD, Ministry of Education Malaysia. However, the participants who had volunteered for the research had chosen to do so of their own free will and without any persuasion from anyone else. The participants were told that the research is concerned with manpower needs and students' occupational expectations.

5.6 Negotiating Entry into the Field

Gaining access to vocational schools in Malaysia for my fieldwork was a demanding task. My fieldwork commenced in February 1996 and finished April 1996, but it took almost 4 months of negotiation starting in October 1995 to achieve entry to the schools where I could conduct it.

Permission to conduct research in Malaysia was obtained from the Director, Educational Planning and Research Division, Ministry of Education. This is part of the procedure set by the Ministry for those who have the intention of conducting research in schools. The next step was obtaining permission to use the sample of secondary vocational school students in Malaysia. This was obtained from the Director, Technical and Vocational Education Division, Ministry of Education. The last step was writing officially to the principals of the participating secondary vocational schools. It was followed by the first visit to the school where negotiation with the school was carried out. Negotiations at this stage were crucial. Principals, in the negotiation, were particularly very concerned about the anonymity and confidentiality aspect of the study. Also discussed were the aims of the research and the benefit that the school would get by being included in the study.

The timetable for the study was then set after getting the final say from the principal. The setting of the timetable involved Form V vocational stream students and the careers guidance teachers. The following were conducted in each school:

- Students' questionnaires
- Students' interviews
- Careers guidance teachers' interviews

5.7 Data Collection Methods

Data for this research came from various groups of samples aimed at exploring the occupational orientations of Malaysian secondary vocational school students and their relationship to OPP2, 1991-2000. In order to illuminate the research objectives, a wide range of data-gathering techniques was used. The variety of data-gathering techniques allows each set of objectives to be exposed from different perspectives. In parallel to that, a triangulation of methods was indirectly employed as it allowed the comparison of data from different sources to cross-check and validate insights. Thus, I believed that preliminary questionnaires and personal interviews would be the appropriate methods to illuminate the research objectives.

In this section, the rationale for the choice of the various data collection methods was explained. The factors that will influence the way in which the methods were applied are also addressed.

5.7.1 Questionnaire Survey

In spite of the disadvantages associated with the use of questionnaires, some of which have already been debated, they do represent a cost-effective method of eliciting information from a large group of respondents who are geographically dispersed (May, 1993 and Bell 1993). Also, they function to measure individual and/or group variables. They consist of a number of structured or unstructured questions or items on paper that a respondent reads and answers. Johnson (1994) put forward his view on some probabilities that contribute to questionnaires by stating that the respondents would read all the questions before completing any,

would complete and return the questionnaire at a time convenient to themselves, or fail to complete the questionnaire at all. All these probabilities largely depend on the effective use of the questionnaire that demands a clear understanding of the overall research context. The researcher needs to define the conceptual definition and then realise the conceptual definition by designing a data-gathering instrument through the process of conceptualisation (Hessler, 1992). This means that the variables to be measured by the study must be transformed into operational concepts and be expressed as a logical series of questions which respondents can apprehend and respond to.

Apart from that, it should be added that the questionnaire layout, the order of the questions and formulating the questions must be given profound thought as well. The tendency for the respondents to be motivated and to answer the questionnaire is also closely associated to this issue. The questionnaire must look easy, straightforward and attractive with clarity of wording and simplicity of design (Cohen and Manion, 1994). They also benefit the researcher in terms of easy and systematic data analysis later. Thus, the questionnaire layout is important for both the researcher and the respondents.

The basic principle the researcher must always consider when designing questionnaires is the reaction of the respondents when they are confronted with the questions. Indeed, the researcher must be able to anticipate the impact of the questions on the respondents. Cognitively, Leedy (1993) argues that it will involve 4 key stages. The first stage is comprehension in which the respondent interprets the meaning of the question. The second stage is retrieval in which the respondent searches long-term memory for relevant information. The third stage is estimation or judgement in which the respondent evaluates the information retrieved from memory and its relevance to

the question. The final stage is the response stage in which the respondent weighs factors such as the sensitivity of the question, social desirability and so forth, and then decides what answer to provide.

Deriving from these stages, it could be summarised that the key element of a successful questionnaire is in choosing the right wording. It is very important to choose the right wording in order to remove ambiguity and to ensure the subjects understand exactly the question (Bell, 1993). Usually the wording employed must possess the characteristics of being easy, short, simple, specific, within the respondent's capability and free from bias. However, it is arguably difficult to choose the precise wording to formulate a series of questions whose meaning is crystal clear to every reader. The probability of poor formulation would result in the respondents having a tendency to misinterpret the questions.

Cohen and Manion (1994) state that the flow chart technique can be utilised in the process of formulating questions. To formulate the questions, the researcher has to reflect on four important questions. The questions are: Will this question be understood in the way it should be? How many different ways could this question be interpreted? Is this question likely to annoy, intimidate or offend? And, is there a better way of asking the questions? The answers to these questions would guide and prevent the researcher from formulating ambiguous, offending or unsequential questions.

5.7.1.1. Student Questionnaire

The use of questionnaires in combination with other methods is not uncommon. In this study questionnaires were used in combination with other methods for a number of reasons. Firstly, data from the questionnaires from the 3 secondary vocational schools provided a description of the Form V vocational stream student population in Peninsular Malaysia in terms of: gender, parental employment, students' occupational expectations, the ranking of selected occupations, students' perceptions of the importance of job-related factors in influencing their occupational expectations, the importance in relation to getting a job and students' perceptions of the role of the careers guidance teacher in the school. Secondly, to get the main ideas of the students' perceptions toward occupational expectations and the skilled manpower demands in the country, in order to elicit the main questions to be asked during the interview.

The rationale for selecting Form V vocational stream students as subjects for this study was that this is the level of the formal education system designed to produce intermediate manpower needed for the development programme. For a majority of students, this is the last contact with formal education before entry into the world of work. Thomas (1990) supports this reason. Also, the subjects were all vocational school seniors whose occupational expectations are not the fantasy aspirations of younger students but reflect impending decisions. Ginzberg, Ginsburg, Axelrad and Herma (1951) believe that realistic choices for the young start near the end of the sixteenth year and according to them in this stage there is a definite tendency for the adolescent to consider reality. However, within the Malaysian context, the students' period of realistic choice comes at seventeen years of age. Poverty, failure in public exams at Form III, lack of motivation to

study, unavailability of schools near their homes and other reasons lead them to see work as the best alternative.

Questionnaires were distributed to the students. They were requested to complete the background information sheet on the first page of the questionnaire. I had explained briefly the purpose of the study, and the students were told how to answer the questionnaire and that it was to be completed in thirty minutes. However, they were allowed to do it at their own pace, and their responses were included in the study. Each student was encouraged to answer every question, and the questionnaires were collected at the end of the session. The survey was conducted during school hours in their respective classes, the same procedure was repeated for all the sample schools.

5.7.2. Conducting Interviews

One of the popular research techniques in education is the interview. In terms of gathering data, research interviews are noted as close allies to questionnaires (Leedy, 1993) as both techniques adopt some similarities concerning constructing questions or statements to be distributed to the informants. Research interviews can take various types and can be placed on a continuum with structured interviews at one end and unstructured interviews at the other. Cohen and Manion (1994) clearly divide the research interview into 4 types, namely the structured interview, the unstructured interview, the non-directive interview and the focused interview. According to Robson (1993) in particular, the semi-structured interview was most appropriate. Although it would appear to be a relatively inefficient method compared to the use of the full structured interview, it has the advantage of allowing the interviewer to follow issues seen as

significant by the respondent through facilitating a greater range of responses. However, fully structured interviews, with predetermined set questions asked, and the responses recorded on a standardised schedule, can create a 'mindset' within the respondent.

In an attempt to meet the demands of data collection, I tried to get respondents to talk freely and openly. According to Robson (1993) interviewer behaviour has a major influence on respondents' willingness: to do this for example, give the interviewee speaks more than she/he listens; put questions in a straightforward, clear and non-threatening way; eliminate cues which lead interviewees to respond in a particular way and finally both interviewer and interviewee must enjoy it.

For this study, the interviews were conducted from February until April of 1996. The instruments were developed which were semi-structured containing open-ended questions that were expected to help in leading the discussions with the respondents during the interviews. The instruments were researcher designed and the draft was examined by my supervisor for relevance, consistency and clarity of questions.

After securing prior approvals from the respondents, the actual interviews were held and supplemented by interviewer notes as a safeguard against missing any important information. The approach proved useful in cases where for some reason, the recording machine failed to function. There were also several incidents whereby respondents sought clarification when a question was not understood and I offered encouragement throughout the interaction, helping to establish a rapport and a free flow of information. However, one major

disadvantage is that it was problematic to secure the amount of time required with prospective respondents.

5.7.2.1 Student Interviews

In-depth interviewing was chosen as the primary method of collecting data in this study particularly with the 28 Form V vocational stream students from the 3 secondary vocational schools. I thought this approach would be more informative than a questionnaire as it is possible with interviews to elaborate on certain questions and to adapt the interview to suit the student. Furthermore, the assumption is that the participants' perspective on manpower needs and occupational expectations can be identified.

I personally approached the potential interviewees (each of whom had been suggested by the course teacher) during breaks, explained that I was very interested in his/her perception of occupational expectations for my study, and asked if he/she would co-operate with me in consenting to be interviewed. The students' reactions to my requests were generally favourable. I received no outright refusals. I thus created a timetable for interviews, but casually reminded the student about the coming interview the day before the interview was planned.

Students were visited during timetabled classes and invited to take part in tape-recorded interviews about their perception of occupational expectations and manpower needs. The students were reassured that these interviews were for research purpose only, that their names would not appear on any computer file or in any report connected with this study, and that any identifying reference made during the

recording of the interviews would be omitted when transcribing the material.

All of the interviews, except two, were conducted in the teachers' office in the school workshop concerned. The other two were conducted in the careers guidance and counselling office because students' learning activities were on and the workshops were too noisy for interview. The interviews were conducted at a time, place and phase most convenient to each respondent. The level of articulation and willingness to talk about themselves differed considerably among individuals. This affected the length of interviews. On average an interview with one student lasted 30 minutes, but ranged from 20 minutes to 45 minutes. Female students at secondary vocational school, some of whom had never experienced a one-to-one interview with a male, were embarrassed at the outset, and it took longer to elicit their views.

The students were assured of confidentiality for reporting purposes. The interview schedule had a clear specified structure, according to the students' perception of occupational expectations and manpower needs. Every effort was made to conduct interviews with a degree of informality.

I initially attempted to transcribe the interview on the same day as the tapes were made. This, however, turned out to be difficult due to the time constraints. Transcription into Bahasa Melayu was only completed for about 5 of the students while I was in Malaysia. After returning to Great Britain, I at first still transcribed the tapes into Bahasa Melayu, but later decided to transcribe them directly into English, in order to save time. I was aware that translation from Bahasa Melayu into English had to be done at some stage of the

research, but also knew that meanings of 'cultural specificity' might be lost in the process. When an appropriate translation was difficult, I included the original expression as well as the English translation. Transcription were made in Bahasa Melayu for 18 interviews and in English for the remaining 10 students.

It was not that every word was transcribed. The relevant information from each interview was transcribed, placed systematically under the headings of the interview schedule in a standard format, and an interview file was created for each student.

A key question was used to check and explore:

1. The choice after Form V destination and reasons for the choice.
2. Attitude to education and work (students were asked whether they had ever considered secondary vocational school as a route to a chosen career, and their perceptions of secondary vocational school).
3. Awareness of national manpower needs and how occupational expectations relate.
4. Influences on occupational expectations (students were asked about several possible sociological influences, such as parents, career teacher, employer (job-related factors), own views and the interviewees were asked who or what influenced them most in making up their minds about career decisions? How? and Why?).
5. Extent and nature of school help (access to careers information and guidance).
6. Perception of sources information (whether their sources of information were school, TV advertisement, radio, newspapers, parents, sisters/brothers or friends).

5.7.2.2 Interviews with Careers Guidance Teachers

A decision was made to extend the interviewing beyond Form V vocational stream students to include careers guidance teachers

involved in the occupational choice process. In so doing the intention was not to provide evidence with which to 'cross-validate' accounts of events. Student perceptions of their world remain the central focus of the research enquiry. The interviews were conducted solely to provide a context and background for the student interviews and getting to know the role of the careers guidance unit at the sample secondary vocational schools.

Careers guidance is perceived as an important function in assisting students to obtain information and advice on employment prospects after leaving school (Bates et al., 1984). It is recognised that careers guidance plays a crucial intermediary role between academics and employers to gain important input and feedback to advise students about career guidance (Boys et al., 1988). An investigation of careers guidance was therefore important in eliciting views on the importance of career and labour market information in assisting occupational choices amongst school graduates.

Three careers guidance teachers from 3 secondary vocational schools were used for this in-depth interview. These careers guidance interviews were conducted amongst senior careers guidance teachers who were deemed to be the most knowledgeable about the activities of careers guidance and interactions with students, academics and employers. All of the interviews were conducted in the careers guidance and counselling office. The interviews lasted between forty five minutes and one hour. The careers guidance teachers were very co-operative. The pattern of answers or responses from the careers guidance teachers interviewed appeared to depend much on their age as well as experience. Senior careers guidance teachers tend to be more resourceful. New careers guidance headteachers appeared to be too straightforward and lacked opinions. There were instances when

the less experienced careers guidance teachers appeared to have some difficulties in understanding the questions posed. 'What do you mean', was always being asked by them.

My position as a Ph.D. student from the Ministry of Education seemed to have a certain impact on these interviews. One of the respondent appeared to be 'afraid' of making mistake in his answers. This happened to be a less experienced careers guidance teacher. I tried to make him at ease and relax and tried to make the session less formal. Key issues in the research questions were brought into discussion in an 'informal' manner moving from specific to generals. All of the interviews in schools were conducted in Bahasa Melayu.

The careers guidance interviews were in the form of a semi-structured interview method. The aims of this interview were to obtain information on five important areas from the careers guidance viewpoint. They are:

1. Structure, statistics, objectives and activities of careers guidance and perceptions of the usefulness of these activities.
2. Views on the role of the careers guidance and counselling in the school to work transition.
3. The theoretical perspective of the career teacher (i.e. whether they see choice in terms of opportunity structure or self-concept/occupational role matching).
4. The perceived attitude of head and colleagues towards careers guidance and counselling.
5. Improvements wanted for careers guidance and counselling in secondary vocational schools.

Findings from this interview were to highlight the careers guidance perspective, the prospects and problems associated with the provision of appropriate and timely career and labour market information for school students to improve long-term job placement efficiency. Views

from careers guidance may highlight the channels for developing a closer relationship with students, school academics and employers to collect and utilise labour market information more effectively.

5.7.2.3 Interviews with Technical and Vocational Education Planners

Semi-structured interviews were held with education planners, namely senior officers in the TAVED and EPRD. The choice of education planners to be included in the interview process was made according to two criteria: (a) informants had to be knowledgeable about policy and practice in the field being studied, and (b) they had to be of a sufficiently senior status to ensure that the most comprehensive picture could be obtained.

An initial list of education planners was obtained from the TAVED, Ministry of Education Malaysia. Selected informants were then asked to name others, whom they thought were knowledgeable about education, careers guidance in schools, training and manpower requirement for Malaysia's industry. Interviews were conducted at the informant's office where we were free from any interruptions, either at lunch time or after office hours.

The interview questions were based on the literature review and personal experience that suggested their usefulness for the purpose of the study. Two TAVED officers and two EPRD officers participated in this in-depth interview. Interviews averaged one and half hours. Although the intent was to follow the interview questions rather closely, it was discovered that a more unstructured approach succeeded in allowing the respondents to tell their stories, from their

own perspective. Though the aforementioned interview questions were used, the format remained largely unstructured, and I only referred to the questions if the respondents failed to address specific points. Although all of the interviews were tape recorded, most of the informants, with minimal prompting or probing, were willing to discuss controversial issues like skilled manpower development, employment opportunities, careers guidance roles, politics and education. The aims of this interview were to obtain information on 4 important areas from the education planners' viewpoint:

1. An appraisal of the overall educational approach in relation to manpower planning /standard in secondary vocational schools.
2. An appraisal of the standard/appropriateness of careers guidance and counselling in secondary vocational schools.
3. The vocational education enrolment target derived.
4. Views on employers' needs in terms of vocational education.

5.7.3 Information Required

As a study of this nature requires a wide range of information, it was selected on similar principles based upon the selection of 'education planners' namely, that they should originate from an authoritative source and they should be relevant to the purpose of the study. Information was collected from a variety of sources:

1. Literature on manpower and educational planning was collected from journals, textbooks, monographs, reports, theses and dissertations. Information about manpower and educational planning in Malaysia was collected from MAMPU, MOE, PSD, Malaysian Industrial Development Authority (MIDA), reports of the World Bank and UNESCO.

2. Information about the Malaysian economic outlook and growth of industry was collected from The Sixth Malaysian Plan 1991-1995, The Seventh Malaysian Plan 1996-2000 and The OPP2 1991-2000.
3. Information about manpower requirement (e.g. labour force surveys, labour market information, manpower projections, occupational and educational requirement) and manpower supply (e.g. demographic, data, types of education and training programmes being offered, programme evaluation, the number of students) were collected from MAMPU and MOE.

5.7.4 Fieldnotes

In my fieldnotes, speech and action were recorded in relation to the factors which could possibly influence them: who was present, the physical location and time, and the context of the occasion. Spradley's checklist (1980) was useful: space, actor, activity, object, act, event, time, goal and feeling. I made a clear distinction between direct quotations, my description of events, and what some call 'analytic memos' (Hammersley and Atkinson, 1983), that is, my comments, ideas and speculations, both on theoretical and methodological aspect (Schatzman and Strauss, 1973). The content of my fieldnotes was largely my description of the events, and this always involved selection, summary and interpretation to one degree or another (Hammersley and Atkinson, 1983). In the evenings I started entering the day's fieldnotes into my computer from my hand-written notes, which gave me an opportunity to reflect on myself and the day's events away from the site. The computer served as a convenient means of storing such data, which could then be easily retrieved at a later stage.

5.8 Data Analysis

Interviews were subsequently summarised from the tape-recording and written up on individual participants' record sheets. The recorded interviewers' judgement of students' views, or their directly expressed views, were in the form of a categorised summary, coded answers and quotations of the interviewees' comments and experiences. Thus it was possible to evaluate the qualitative evidence and also to link interview and survey data.

These progressively focused inquiries provided rich sources of both qualitative and quantitative data, which enabled a picture to be built up of:

- the student's experience at school and outside in preparing them for occupational choices, and their reactions.
- the secondary vocational schools students' awareness of national manpower needs and how their occupational expectations relate to them.
- their influences on their choices.
- the role of careers guidance programmes in secondary vocational school in helping student to reach their occupational decision.
- the role of education policy makers and planners in relation to manpower needs and vocational educational planning.

5.9 Fieldwork: An Anecdote

This section reflects on fieldwork experience, the survey techniques adopted for the interview session and recurrent problems during the

survey. Suggestions for a better fieldwork approach are provided from the benefits of hindsight.

Efficient work organisation, good time management and sustained self-motivation are crucial elements in any fieldwork. Diminishing resources such as time and funds can exert intense pressure on a researcher to keep strictly to the schedule. This is particularly critical for those undertaking research abroad and having to return to their research base after a specified period.

Fieldwork provides an excellent base for research training because it demands the development of management and organisational skills. This may be where researchers learn to appreciate the need for compromise when faced with the hard facts of life. Difficulties in getting data and information are usually quite inevitable. Promised assistance could be unsatisfactory or at time, not fulfilled at all.

Overall, this field experience was considered to be very useful. The researcher himself conducted all interviews. This arrangement was thought most appropriate because it minimised the problems of inaccuracy. Furthermore, the researcher was able to develop a better understanding of pertinent issues of the research after discussing them with key persons in the fields. Additionally, a carefully designed questionnaire was also important to elicit information required for the research.

Conducting interview sessions was definitely a challenging task. Unless interviewees have confidence in the author and the survey, unsatisfactory responses may result. A difficult balance act during the interviews was in maintaining eye contact with the interviewee, assimilating their responses and simultaneously writing down particular thoughts arising from the interaction. The bottom line is

that difficult problems are to be expected during any fieldwork. Their effects constantly have to be minimised by creative thinking, quick reactions, and also some good luck.

5.10 Conclusion

This chapter discussed the methodology I have employed in this study, and described the processes of data collection and analysis. The approach and methods have been chosen in order to answer the problems addressed in this study. The idea of mixing qualitative and quantitative data in a parallel approach was developed in the hope that it will offer rich information that will complement itself, and that this will give an added insight towards understanding the issues concerned. The abundant data I collected was thus processed, and its analysis will be presented in a systematic form to provide a picture of the relationship between manpower needs and students' occupational expectations in chapters 6, 7 and 8. In the next chapter, a general description of the sample will be discussed.

CHAPTER SIX**GENERAL DESCRIPTION OF THE SAMPLE****6.1 Introduction**

This section provides some information on the background of the respondents who were in their fifth form at the time of the survey. It should be stressed that the sample was derived from a random sample of secondary vocational schools stratified by geographical (industrial area/non-industrial area), socio-economic type (rural/mixed/urban) and the roles of careers guidance systems. Inadequate information at the sampling stage ruled out further stratification by gender and ethnicity. Frequency and percentage distributions of students' gender and ethnicity, course specialisation, socio-economic background of parents, family discussions about employment and intention on leaving school were prepared for the analysis.

The Form V vocational stream was grouped into the Engineering Trade, Commerce and Home Science, each group consisted of 210 students, 120 students and 90 students respectively. Given the Malaysian education structure and the regulation regarding the starting age of schooling, the majority of the vocational stream students in the fifth form were 17 years old. The ages of these students are representative of the overall ages of Form V vocational stream students in secondary vocational schools in Malaysia.

6.2 Gender and Ethnicity

As emphasised earlier, the sample of students was not obtained from a population stratified by gender and ethnicity. The weighted sample consists of 251 (59.8 percent) male and 169 (40.2 percent) female students (See Table 6.1).

Table 6.1: Distribution of Respondents by Gender and Ethnic Group

Gender	Ethnic Group			Total
	Bumiputera	Chinese	Indians	
Male	209	37	5	251
Female	154	11	4	169
Total	363	48	9	420

Among the male students, 83.3 percent were Bumiputera, 14.7 percent Chinese and 2.0 percent Indians. Bumiputera students accounted for an even larger proportion of the respondents among the female, i.e. 91.1 percent. The Chinese and Indians accounted for a further 6.5 percent and 2.4 percent, respectively. Overall, the Bumiputera accounted for 86.4 percent of the total sample, the Chinese 11.4 percent and Indians 2.1 percent. Among the males, the sample also consists of considerably more male than female students, i.e. males outnumbered females by 19.5 percent.

6.3 Socio-Economic Background of Parents

The choice of three secondary vocational schools for the research was based on the geographical location and was designed to reflect the spectrum of schools from which the majority of vocational school leavers came each year. Individual home backgrounds were varied. Some of the vocational stream students who took part in the research had a father in skilled, secure jobs and lived in neat, well-maintained homes, while other students were less fortunate, and lived in far less comfortable surroundings.

Students were asked to state their fathers' occupation, 33.4 percent of male Bumiputera students indicated that their fathers were working as agriculture and animal husbandry workers, 29.6 percent as service workers, 8.7 percent as production workers, supervisors and foremen, 13.1 percent as professional and technical, 6.0 percent as administrative and managerial workers and 5.1 percent as sales workers. On the other hand, among male Chinese students, the largest proportion 29.4 percent reported that their fathers were agriculture workers, followed by 23.5 percent as production workers, 11.8% service workers and administrative workers, respectively. Other occupational categories accounted for less than 10 percent each. Among the male Indians students, 40 percent indicated that their fathers were working as professional and technical workers, and agricultural workers, respectively. Indian male students indicated that 20 percent of their fathers worked as production workers, supervisors or foremen.

The distribution of father's occupation among the female students is similar to that among the males. On the other hand, a smaller proportion of the female Bumiputera students reported that their

fathers were agriculture workers (29.4 percent), 25.5 percent reported their fathers were working as services workers, 17.6 percent as production workers, supervisors or foremen, 11.8 percent as professional and technical. Other occupational categories account for less than 10 percent each of the occupations of the fathers. Much of the differences in the distribution of occupations among fathers in the different ethnic groups can be attributed to differences in their educational attainment and location (i.e. rural/urban).

Looking at the sector of employment, most of the fathers of the male students were working in the agricultural sector (33.3 percent), followed by 28.3 percent in service sector and 12.9 percent in the professional and technical sector.

The distribution of the fathers by sector of employment is quite similar among the female vocational students: 27.8 percent in the agriculture sector, 24.1 percent in the service sector and 20.4 percent in manufacturing, construction and utilities. In general, the same distribution is found across the various ethnic groups.

Table 6.2: Percentage Distribution of Fathers' Monthly Income based on Students' Gender

Grouping of fathers based on students' gender	Father's Income Per Month									
	RM200 Less than		RM201- RM500		RM501- RM1000		RM1001- RM2000		RM2000- above	
	N	%	N	%	N	%	N	%	N	%
Male	8	3.1	116	46.2	93	37.1	30	12.0	4	1.6
Female	19	11.2	63	37.3	50	29.6	31	18.3	6	3.6

Looking at the income of the fathers, the modal class-interval is RM201 to RM500. This class-interval accounts for 46.2 percent of the male students (See Table 6.2). A further 37.1 percent of the fathers of the students earned between RM501 and RM1000. Less than 12 percent earned between RM1001 and RM2000 and RM2001 and above. It should be noted that barely 4 percent of the fathers earned RM200 and below. Most of the students would therefore come from households living above the poverty line.

Table 6.3: Percentage Distribution of Fathers' Monthly Income based on Students' Ethnic Group

Grouping of fathers based on students' ethnic	Father's Income Per Month									
	RM200 Less than		RM201- RM500		RM501- RM1000		RM1001- RM2000		RM2000- above	
	N	%	N	%	N	%	N	%	N	%
Bumiputera	14	3.9	166	45.7	128	35.3	48	13.2	7	1.9
Chinese	2	4.2	11	22.9	31	64.6	1	2.0	3	6.3
Indian	1	11.1	5	55.6	2	22.2	1	11.1	-	-

By ethnic group, a much larger proportion of the Indian fathers earned between RM201 and RM500 (55.6 percent) than Bumiputera (45.7 percent) and Chinese fathers (22.9 percent). On the other hand, less than 2 percent of the fathers of the Bumiputera students earned RM2001 and above per month compared with 6.3 percent for the Chinese students and none of the Indian students had their fathers earning within that class-interval. This no doubt has some relationship with the education of the fathers and the nature of their employment. Fathers of the Indian students were the least educated and were largely engaged in the agricultural sector. As with the fifth

form vocational stream students, the difference across ethnic groups in terms of father's income and occupation can be attributed to differences in educational attainment and location (i.e. rural or urban).

6.4 Family Discussions about Employment

Because of the known influence of family background on young people's ideas, attitudes and aspirations concerning employment, it seemed worthwhile to try to discover from these students just how much, or how little their families talked about their own jobs and the impressions that they conveyed.

In more than half of the students' homes, employment was discussed at least once or twice a week, although in some students the subjects was never raised:

ST(SVS/C) Starting from Form V, I stay at the school's hostel because I want to concentrate on my final year before sitting the MCE(V) examination. So, about once a month on the weekend I usually go back to my *kampong* (home village) to see my family. Nearly all my family give good support in my study but we never discuss about job opportunities, because most of the time I have to help them with their work when I went back or may be they have no knowledge about the course that I am doing which is building construction. For them what is good for me is good for the family.

This raises the question of whether it followed that those students in whose homes employment was rarely, if ever, discussed were less well-informed about or familiar with the world of work and all that it involves than the other students. A lot depends on anecdotal remarks about fellow workers or incidents that occur during the course of the

day, or to complaints about the job itself. Young members of the family who are about to leave school are unlikely to gain much knowledge of work situations from them. At best, such remarks will convey a personal impression of a particular work environment; at worst they represent little more than an individual's jaundiced view of his own job. Neither is likely to provide a young person with a sound basis for assessing his suitability for various types of occupations or with anything resembling an adequate knowledge of local employment opportunities.

It was evident from the Engineering Trade students' interview that these discussions on employment were in fact mainly confined to remarks about incidents at work and complaints concerning jobs. Aspects of employment such as work satisfaction, earnings and social relationships were hardly mentioned at all. The following example illustrate the cursory and partial impressions of working environments conveyed by some fathers:

ST(SVS/B)My father works in a small workshop as a welder and he always grumbles to my mother that he is sick of doing the same job all the time. He mentioned quitting from the job because of the long hours and it's too tiring for him.

Whereas some families confined their discussions to general remarks:

ST(SVS/C) I have a brother.....he works as a senior supervisor at the General Electronic Co. With his working condition now, he is quite stable for his future. Sometimes he told me how much he's earning every month and if he got any bonus or anything like that.....

In general therefore, family discussions about employment were anecdotal and subjective. There were no clear descriptions of jobs, no evaluations of the pros and cons of particular work situations, and no

attempts to convey the demands and rewards of various types of employment. Work was a sometimes tiring activity for which one got paid. It varied from day to day in terms of its satisfactions. Different types of jobs brought with them their own particular hazards or frustrations:

ST(SVS/A) My mother wants me to get a job that is not exposed to a dangerous working situation. my brother hurt his hand when working at the machinery workshop where he was employed. From that tragedy, my mum was really concerned about my future career. However, my mum always prays to *ALLAH* that everything will be OK.

Data from the research indicates that the students' families' discussions about employment tended to be limited both in scope and frequency. In order to find out whether this was also true in the case of discussions about students' own occupational choice, the interviewed students were asked how often their families talked about what type of work they would do after leaving school, what suggestions, if any, they made, and what preferences their families had expressed concerning their choice of employment. One student indicated:

ST(SVS/A) Yes, we had several discussions about my studies and future careers once or twice a week. For example when I applied to vocational school, my father told me that this ABM (Machines Shop Practice) course is good for my future. I was interested in taking an automotive course at first but my father said, that there are many people already involved in this area and were going nowhere. But it's different for ABM course because it expands with the technology development and the job opportunities are also good. Therefore, I chose this course. He gave his full support and I think that all he said to me was true.

However, the content of the discussions tended to be very restricted. Many students had received suggestions about job choices from both

their parents, but these did not usually extend beyond advice to 'get an engineering trade' - in other words, to take up any vocational specialisation such as electronics or motor mechanics. Sometimes job suggestions reflected family employment traditions: for example, some students' mother had put forward the idea that her son should work either with his father or his brother. As one student said:

ST(SVS/A) My father was a bit reluctant to express any job preferences to me because he wants me to be free in choosing whatever field of employment I wished. His main concern in getting a job were about prospects, security and wages. But, this is different from my mother's expectations, she wants me to be an engineer like my brother. With this expectations, I have to work hard so that I can get my degree.

The subjective and partial nature of the images of work conveyed by these discussions suggest that they contributed little to students' knowledge of jobs and local employment opportunities.

6.5 Reasons for Leaving or Staying in Education

In a study which is concerned with the labour market experiences of a group of young people who have left school at the earliest opportunity (early leavers) a logical starting point for any analysis would seem to be an examination of the factors which influence the decision to leave school 'early'. The school leaving decision is the complement to the decision to participate in the labour market for prime age groups. The participation decision for young people at 17 is however likely to be markedly different from those of adult groups. For the adult group the participation decision is either to work or to stay at home (this is particularly true for married females) whereas the decision facing

young people is fourfold - to continue education, to get a job, work part-time and study part-time.

The decision to leave secondary vocational school is clearly part of a general process of occupational choice, a concept which seeks to explain the student's movement through the education systems and into the labour market. General occupational choices, or aspirations, are formulated on stage one. This is followed in stage two by the development of more specific occupational choices, which may be termed expectations, requiring an occupational decision to be taken. The choice of route to achieving one's expectations are also decided in stage two, that is, the school-leaving decision. Two sets of semi-arbitrary factors influence this decision: the statutory legal leaving age (usually 16 or 17 years of age in Malaysia); and completion of the final year of schooling (usually Form VI in Malaysia, completed at age 18 or 19). The other major determinants of this school-leaving phase involve the complex interplay of factors within the individual, within the school context and within the social demography of the family.

To know the intentions on leaving or staying in secondary vocational school, the vocational stream students in the survey were asked 'what do you intend to do when you leave school?' and they could answer in one of five ways: 'to continue education', 'to get a job', 'work part-time', 'study part-time' and 'don't know'.

The results (see table 6.3) indicate that while 27.6 percent intended to get a job, 5 percent of the students intended to work part-time. Those who intended to go into further education represented 57.9 percent after leaving vocational school. Career aspirations seemed to be the most important reason for staying on. Vocational stream

students hoped that the qualifications they would obtain by furthering education would help them get more desirable jobs and a better choice of job.

Table 6.3 The Students' Intentions on Leaving School

	Frequency	Percentage
To continue education	243	57.9
To get a job	116	27.6
Work part-time	21	5.0
Study part-time	19	4.5
Don't know	20	4.8
Total	420	100

For both those who intended to get a job and those who intended to go into further education, employment considerations were paramount. Those who intended to leave wanted to earn money immediately. Those who intend to further their education would benefit in terms of employment later when they had additional qualifications. Enjoyment of studying appeared to be more important for those students who intended to further their education. Furthermore, the influence of parents was more important to those staying on.

Since the decision to continue one's schooling or enter the labour market are inextricably linked, it is necessary to consider a range of influences on the school-leaving decision. Human capital theory is clearly of relevance in a study of this type, an approach which stresses individual optimising behaviour. To recap, those individuals

who receive more education incur a cost in terms of foregone earnings, the opportunity cost of further education. But assuming earnings equal marginal products, the increase in their productivity arising from the extra schooling results in the more educated being paid more. In other words the decision to stay on at school will depend on whether the net present value of education is positive. There are two components in such calculations: expected benefits and expected costs. The former comprises largely of additional lifetime earnings consequent upon the extra schooling, plus any social and intellectual amenities. Expected costs include foregone earnings and direct schooling costs (the lost income which could have been earned had the student left school and entered the labour market) plus direct schooling cost. As one student said:

ST(SMV/A) Err....At this moment, I have my own vision for my future. If I can get grade one or two.....I will try to apply UTM (Universiti Teknologi Malaysia) or Polytechnic. Anyway, if my MCE(V) result is not that good, I still want to continue my study to the advanced skilled centre like GMI (German Malaysia Institute).....But I have to change to electronics or electrical course from refrigeration and air-conditioning because the course that I am doing now are not being offered there. I do believe that the knowledge and experiences gained from there will enable myself to open my own business.My ambition in this field is to invent a sophisticated air-conditioning system for commercial and local use.To me, I think there is no point to get a job early....I mean after leaving secondary vocational school because the starting salary and the job position will not be very good either in the private sector or in the government services. Furthermore, my father always advises me that if you had good qualification you can apply for better careers in any sectors.

The data indicates that the vocational stream student stays on if the expected benefits are greater than the expected costs. In discussing the income - family - ability nexus human capital theorists also

attempt to account for such influences in calculating the returns to continued education. Both ability and family socio-economic background operate as constraints on choice. Thus, the more able are more likely to invest in further education since the expected return is higher and they were less responsive to changes in tuition costs, whereas poor family socio-economic background may lead to early entry to the labour market because of a lack of funds. This corresponds to the comments from the Engineering Trade students:

ST(SVS/A) Err.....Bot my father and mother are teaching engineering subjects at the technical school. I have no doubt that they know very well the demand of the engineering jobs in the market now. To be frank, in my situation, everything was planned by them and I just followed. The automotive course that I am attending now are chosen by them. After leaving school they still want me to continue my education even if my result is not so good because they are willing to pay the tuition fees for private technical college. But, if I have good result in my MCE(V), I will apply for local universities or polytechnics. This is really my challenge to be successful in my future.

ST(SVS/B) Err....all in my family, that is my mother, brother and sister want me to be successful in the MCE(V) and get a job as soon as possible after completing the Business Management course to support the family. This is because my mother is only an operator at the electronic firm and she's the only one that support our family right now. My father had passed away when I was in the primary school. I think, I will continue my study in Business Studies Diploma later on when I have enough financial to pay the fees for the first semester in the tertiary education such as Ungku Omar Polytechnic. For the following semester I will apply for the scholarship.

Family background can be broken down into a leaving status and income effect. In this context leaving status effects in the demand for post-compulsory education may simply reflect different tastes for education, including both consumption and, investment benefits,

whereas the income effect operates as a financial constraint on choice, given imperfect capital markets. Due to such imperfections, the cost of funds will be higher for borrowers than the opportunity cost of funds to those who can finance themselves. Essentially, therefore, an increase in parental income, irrespective of leaving status, may lead to an increase in demand for more education (Baxter and McCrorwick, 1984). Furthermore, it is observed that students from large families tend to be early leavers and the wealth constraint may in part account for this. However, it may be that the young person's position in the family hierarchy is a more important factor than the actual size of the family. For example a student who has elder brothers living at home and in employment and making a contribution to the family's disposable income, was more likely to stay on at school than the student that is the eldest child in a large family:

ST(SVS/C)But, I have a little doubt that my aspiration will be having some constraints since my father wants me to get a job after leaving secondary vocational school. Being an eldest in the family of six, I have to consider my younger brothers and sisters because they also need proper education. My father wants me to study part time while I'm working. *Insya Allah*, I'll try my best to achieve my aspiration besides fulfilling my parent's needs.

Financial problems, influence of friends or direct parental or school pressure were important in only a few cases. Examples of such responses were:

ST(SVS/A) I think I will get a job after MCE(V) just to support my mother. She was separated and couldn't afford to buying things and giving me and the rest of the family pocket money. My young brother and sister had to go school.

ST(SVS/A)Since my mother passed away last year, house work and school work did not mix making it hard for me and my semester test result especially mathematics and Science were beginning to suffer. If I

can't get a good result in MCE(V) most probably I will find a job....may be as a beauticians.

Data from the research indicates that a major frequency dimension of the school staying or leaving process is the congruency between individual abilities, values and expectations and the value climates of home and school.

In addition, given non-clearing labour markets, the young person's decision to stay on may be influenced by the probability of unemployment on leaving school or differential employment prospects of graduate versus non-graduate labour (Kodle, 1988). As one student said:

ST(SVS/B)I still remember my course teacher told us in the class that Malaysia is now facing a shortage of engineers and technicians in all fields in order to fulfil the needs of the industries. However, those who have the degree and diploma will have a better chance to grasp these occupational opportunities. That's why I try to get at least a diploma to get a job. One of my cousins after leaving vocational school had a diploma from MIT (MARA Institute of Technology) and he is now a production engineer at Proton Co. having a good standard of living. Hmm.....I wish I could be like him.

The study supports the view of Joll et al (1983) that the decision to enter the labour market will be affected by a person's taste and preferences, institutional factors, such as age requirement for certain occupations, the current and future wages of minimum age leavers.

In line with earlier research (Dean, 1982), most of those students who intended to further their education aspired to a professional career.

However, it appeared from the data that many students were not strongly committed to their decision to stay in education.

ST(SVS/A):.....I like to continue my education in Diploma Hotel and Catering after MCE(V) at MIT (MARA Institute of Technology). However, while waiting the result I will find a job just to get some money and experiences. But if any industries offer me a good job with a good salary, maybe I'll stay onIt depends.

Nearly all of the vocational stream students planning to stay in education were prepared to change their mind if they received an attractive job offer or if their examination results were very different from expected. This related to the reasons these students gave for staying on in education. Most thought that, by obtaining additional qualifications, they would have better employment opportunities. If they were offered an attractive job without these qualifications, or their examination results were much better than they anticipated, their reasons for staying on would no longer be valid.

The data clearly indicates that stayers and leavers display different commitments to schooling and planning their future jobs in conjunction with their families. In terms of transition from school to work, staying or leaving early becomes an important factor affecting future life chances and transitions for students. While congruency of goals between home, school may work well for some groups of students in this period of decision-making and transition, it does not for all. The life-span implications are enormous.

6.6 Conclusion

Staying on in education was related to social status. Vocational stream students whose parents had non-manual jobs were more likely

to continue in education after vocational school than students whose parents had manual jobs. The data of the research provided little evidence that this was due to financial pressure. However, parental encouragement to continue their education and the example of other relatives who had stayed on may have had an influence.

Vocational stream students who planned to leave education at the end of secondary vocational school: most of them were non-Bumiputera female students. The majority came from homes where no member of the family had continued education beyond the Form V. Slightly more female than male vocational stream students were planning to stay on in education after vocational school. This has also been found in other studies (e.g. Varlaam and Shaw, 1984). When actual destinations were examined, it was also found that female students were more likely to continue their education than males. Males were significantly more likely than females to have obtained manual employment and apprenticeships.

CHAPTER SEVEN**MANPOWER NEEDS AND OCCUPATIONAL CHOICE:
THE PERENNIAL MISMATCH****7.1 Introduction**

This Chapter will discuss the vocational stream student plans and their consistency with occupational expectations. What emerges from this study is the need to improve the link between the vocational educational system and the world of work, one of the most intractable manpower problems. The study indicates that students' educational goals conform to their vocational preferences. However, given labour market conditions, these aspirations and expectations are generally unrealistic. This emphasises the role and importance of better careers guidance in secondary vocational schools.

7.2 The OPP2 Planning and Occupational Matching

As we go into the 21st century, Malaysia is emerging as a tight labour market economy, growing into overall shortages of indigenous labour. The critical factors in addressing the direction of Malaysian future economic growth were discussed in Chapter Three. The emerging tightening of the overall labour market is evident (Table 3.3) in Chapter 3.

The OPP2 provides the guideline of the nation's development philosophy and broad policy areas which will form the basis of development strategies and programmes for the Sixth (1991-1995) and Seventh (1996-2000) Malaysian Plan. Among the major areas

touched by the OPP2 is human resource development which provides the basis of Malaysia's education and training policies. The OPP2 also provides a target occupational scenario which sees the fastest growing occupations to be in those areas related to administration and managerial, sales, professional and technical, and production categories in line with the growth in the manufacturing and tertiary sector activities as shown in Table 3.4 in Chapter 3. The plan estimates the number of individuals required in the various occupations and prescribes the necessary education and training. Output from secondary vocational schools are portions of the projected manpower.

Occupational choice is a difficult challenge to vocational stream school leavers, but especially to those in developing countries like Malaysia as their environments change from simple into more complex cultures. The traditional occupational concept is being revolutionised and the number of possible occupations is multiplying. Choice is made more difficult by the fact that student exposure to the range of new occupations available in their world is limited during the period of their education. As one Engineering Trade student said:

ST(SVS/A)I don't know what kind of a job that needs many workers nowadays or in the future because I have no experience in looking for a job. However, as a technician in the government sector, I think it should be all right because by the end of the year your salary will be incremented automatically. I'm not interested in getting a job in the private sector.....it's too busy and some company will not allow you to take a relief for *Jumaat Prayer*. One more thing, if you don't show good performance, it means you are out of the job (*Male Student*).

The data from the research indicates that those occupations the students know and perceive as prestigious tend to be already in excess supply and do not meet the needs of the development goals. Even if the vocational stream students were aware of a broader range

of skilled occupations, they would still be ignorant of the preparation requirements, the point of entry to the occupation and the entry to which they as individuals would be able to get access to the jobs if they had the necessary preparation.

The transition from secondary vocational school to work has also been very difficult for vocational stream students, especially those in non-industrial areas due to the lack of congruence between vocational education and the world of work. The failure to achieve a match between education and the labour market can further be blamed on outdated vocational education systems which do not conform to the immediate needs of the society and the phenomenon UNESCO (1994) described as the race between education (supply) and technology (demand). In Malaysia, vocational education needs to meet both its quantitative and quality targets. There is growing evidence that vocational education in Malaysia is in urgent need of elucidation, in view of questions concerning the most effective way of turning out skilled manpower to meet the OPP2 target. At the same time, the Cabinet Committee Report on Training (MOE and EPU, 1991) has suggested the need for an effective overall control and management of vocational education and training system, in order to reduce educational wastage through a mismatch between vocational educational output and job opportunities.

The difficulty in adjustment to labour market dynamics will probably contribute to the rural-urban migration and unemployment with students failing to perceive a direct link between their vocational education and employability. The following statements support this perspective:

ST(SVS/A)From what I have been told, there are many skilled and semi-skilled jobs opportunities especially in the big industrial areas such as Johor Bahru and Shah Alam. But, yet, I don't know which technical skill that is in

more demand by the industry. Anyway, I had already discussed about it with my parents that I will go there and take whatever job offer after the final examination (MCE(V)).I have no confidence in getting a job here (rural and non-industrial area) since there are not so many manufacturing industries (*Male Student*).

Table 7.1: Projected Manpower Needs of the OPP2 (1991-2000) and Expected Occupations of Malaysian Vocational Secondary School Students

Occupational Categories	Projected Manpower Needs of 2000		Occupational Expectations of Students	
	N	%	N	%
Professional and Technical	900,800	10.0	236	60.0
Administrative and Managerial	263,700	2.9	8	2.0
Clerical	891,300	10.0	42	10.7
Sale	1,243,200	13.8	13	3.3
Service	1,131,500	12.6	2	0.5
Production	2,737,600	30.5	92	23.4
Agricultural	1,818,200	20.2	-	-
Total	8,986,300	100	393	100

The planned manpower requirements and students' occupational expectations from the questionnaires were determined, matched and compared as indicated in Table 7.1. Percentage distribution of the OPP2 was determined by dividing each occupational category by 8,986,300 workers expected to be in modern sector wage employment in 2000. Occupational expectations of Form V vocational stream

students were determined by their responses to item 12 in the questionnaire: 'What occupation do you expect to get after completion of your vocational education?' The vocational stream students in the sample are representative of all Malaysian vocational stream students of the same age and grade, the proportion of the sample within each occupational category should provide serve indication of the proportion of all Malaysian Form V vocational stream students in secondary vocational schools who will make the same choices.

The study seeks to determine whether imbalances exist between students' occupational expectation and OPP2. Table 7.1 clearly shows that a 'mismatch' does indeed exist between national manpower needs and occupational expectations of the prospective work-force. Data from the research indicates that vocational stream students' occupational expectations were not in accordance with employment targets of various occupational categories set by OPP2. The data indicate a remarkable intention of Form V vocational stream students to enter the Professional and Technical professions. 60.0 percent of these students expected to work in that category. The OPP2 projected the need for 10.0 percent of total employment. This is paralleled by the following students' responses:

ST(SVS/A)I wanted to be a qualified civil engineer in private sector. I do hope that I can get to the UTM (Universiti Teknologi Malaysia) after leaving secondary vocational school (*Male Student*).

ST(SVS/B):Entering secondary vocational school to me is like a bridge to further my studies in technical education up to the highest level, that is, to become a skilled mechanical engineer. I think in Malaysia we have many engineers in several fields but not all of them are skilled engineers.....that's why, the government still needs the technical expert from industrialised countries such as Japan and German (*Male Student*).

Although there is a continuation of the present upgrading of production technology from the simple assembly and process-type operations to the more sophisticated automated processes, the demand for engineers and technical assistants in the OPP2 is still low compared to other occupational categories. Thus, few job openings in the Professional and Technical occupations are expected in the labour market in the near future. If the students planned to pursue their expectations, they would be disappointed to find limited occupations or none available in the labour market.

The government emphasises its highest priority of developing the country's manpower in the sector of Manufacturing. In order for the country to achieve the desired level of development, the work-force of the future will have to be multi-skilled, innovative and creative, versatile and adaptable, possess numeracy and communication skills and be highly motivated and disciplined. This, coupled with the more and more sophisticated and fast-changing technological development taking place in the manufacturing sector, requires a different set of quality manpower. As production capacity increases it will place greater reliance on rapid technological advancement. The country will move further into the age of micro-electronics, fibre-optics, information technology, biotechnology and laser technology. Some of the technological changes taking place in the manufacturing industry now involve the adoption of computer-aided technologies such as CAD, CAM and the use of CNC machines as well as robotics in manufacturing. The manufacturing sector requires more trained and skilled manpower, technically oriented with a set of industrial values which are essential in order to maintain a productive and competitive production entry that will ensure the maintenance of Malaysia's competitive edge in the world market. Interestingly, the data indicates that students' expected occupations for this category were not in accordance with employment targets set by OPP2 (1991-2000).

Malaysia places importance in developing the human resource in the sector of Production. The country projected 30.5 percent of the labour force to work in the Production or Manufacturing occupations. However, from the student sample 23.4 percent expected to work in that category. Apparently, if students are determined to have their way, the Production and Manufacturing occupation will experience a shortage of skilled manpower.

However, vocational stream students' occupational expectations were quite similar to that of the manpower needs in the sectors of Administrative and Managerial, and Clerical. Hence this category allocated by the students is 2.0 percent and 10.7 percent and the OPP2 plans in this sector were 2.9 percent and 10.0 percent respectively. Workers in Administrative and Managerial participate in formulating the policy of governmental and non-governmental organisations; and plan, organise and direct the interpretation and execution of policies.

The study indicates that occupational expectations of students were not in accordance with manpower needs, this is partly due to the nature of planning in Malaysia. Planning in Malaysia has always been in favour of long-term projections of manpower requirements. Such long-term projections, despite problems of reliability are useful for educational planning purposes. However, they have their limitations as a guide to employment policy. Here is a question of accuracy of skilled manpower projection of OPP2 as a base for comparison in the study. How accurate and reliable was the OPP2 as an employment data source? The OPP2 provides manpower projections at the level of major occupational categories up to 2000. It was designed to update the 1973 Manpower Survey and it was not based on employers' survey. Instead the forecast of the 1973 Manpower Survey was

compared against the 1980 census employment figures and the updated figures were published in the OPP2. In a few cases the projections turned out to be very accurate differing from the actual 1980 census employment levels by five percent although there were numerous large under projections and several over projections. The OPP2 uses a combination of statistical extrapolation, census data and employment elasticity of output estimates to produce projections of net manpower requirements during 1991-2000. The OPP2 was significant insofar as the analysis of the supply-side was concerned.

The usual characteristics of labour markets, geographical and occupational immobility of job seekers, and mismatches in skills and expectations of job seekers, make it is clear that the number of people who are actually available and willing to take up the jobs created in the economy, would be much less than that indicated by the gross figures of the labour force (Pathmanaban, 1994). It would thus mean that, of the total number grouped as unemployed (defined as a person actually seeking a job but not getting one), a further proportion would in fact not be willing to accept many of the jobs that would be available. Some of them could be persons who would only accept a job in their own home town or near their house, on account of family needs especially Bumiputera: or do not possess the education or skills generally required for such jobs. However, these are contrary to the Chinese who have known economic hardship and have had to leave home and family in search of financial security. This experience, according to Lau (1995), has led to a strong emphasis on the pragmatic. Things which do not have a clear immediate 'pay-off' are played down in favour of those which are more tangible and immediately useful. This was confirmed by the careers teachers:

CGAC(SVS/A) Vocational stream students have no problem in getting a job because what I had seen so far they can get the job easily. The manpower problems may arise in the country because some of the vocational school

leavers just grabbed any kind of job that been offered within their local area even though it is not related to their course e.g. automotive students work in the furniture industry, electronic industry or refrigeration and air-conditioning repair shop. The question is how are they being employed with the different skills needed by the employers. I always advise those students who were from the rural and non-industrial area to work at the big industrial areas, but in their opinion if the salary is only RM200 or RM300, it is better to work in their local area and stay with their family. But most of the Bumiputeras said that it is difficult to survive in a big city whereas the Chinese student said that they don't bother where the jobs are as long as they can gain much work experience.That's the difference.

CGAC(SVS/B)The jobs at which some of the vocational stream students aspired strongly were not reflected by the jobs available in the local area in which the students lived.

Therefore, the labour market would effectively have less people available for jobs than the total number categorised as being in the labour force. Indeed, the mismatches in supply and demand of workers, caused by education, skills and aspirations could be extensive, giving rise to serious shortages of workers in specific industries and areas.

It is clear that a substantial proportion of students who complete a course of vocational education and training at the secondary vocational school are not immediately successful in finding employment, either because suitable vacancies do not exist or because school leavers looking for work are not aware of appropriate vacancies Ibrahim, et al. (1989). The students' statements confirmed this viewed:

ST(SVS/B) I don't know for sure what kind of work that I will be dealing with later on but I wanted to do something that is related to my course work for example being a CNC (Computer Numerical Control) machine operator. We can see now that Malaysian economic development is

growing rapidly. Making national automobiles is one example. Therefore to satisfy the needs in this technology, precision in machining is important. In this respect, I will be contributing the country's demand. The only problem that I may face is the difficulty of getting this kind job in this area (non-industrial area) since only a few manufacturing industries available. However, I must try for it and not to get a job away from my family (*Female Student*).

ST(SVS/B): I have a high ambition, that is, to further my studies in this field up to the university level and to become an engineer. But if my results are not too good, I will get a job that is relevant to my course work.....Err...at least being a junior technician in industry (*Male Student*).

The study casts considerable doubt on the credibility of the manpower projections and underlines the need for improved sources of data about relationships between education, employment and economic growth. The difficulties of using manpower projections as a guideline for educational reforms are further highlighted by the finding that many qualified young people appear to change jobs fairly frequently and to gravitate towards types of employment not directly related to their course of training. It may well be that some youngsters are not particularly keen to enter the kinds of work for which they have been trained, choosing instead to look for employment which they regard as more suitable.

7.3 The Role of the Secondary Vocational School

An important aspect of the secondary school world is undeniably employment. Within educational circles the view is sometimes held that schools should not be greatly concerned with preparing young people for the world of work. In the narrow sense of the term, such a

view would be generally accepted for the reasons outlined earlier on. In the wider sense however, it is surely unrealistic to underplay the fact that sooner or later vocational school leavers have to enter employment. The students themselves almost certainly have this uppermost in their minds when they assess the value and relevance of their secondary vocational education.

The transition from secondary vocational school to work of early leavers involves a number of processes which can be analysed as distinct and separate stages in the transition period. These stages of preparation for entry into labour market begin whilst students are still at school, though exactly when these processes begin is often difficult to determine. The school can play a very important role in preparing students for entry into the labour market, and this study is concerned with just how much of a role the secondary vocational school does in fact play, particularly as a source of occupational information.

The Malaysian vocational educational system does not conform itself to the environment nor to the nation's socio-economic problems. One of its deficiencies is a lack of careers information which would facilitate career decision-making. The occupation chosen can be an important determinant of a student's life. To enable them to make the right decision a student will need information on the range of occupations open to them, guidance to enable them to match their interests, and attributes to a particular career or range of careers. However, only one vocational school in the study seems to have given more attention to developing students' interpersonal skills and self-knowledge which are important attributes for successful occupational choice. As one interviewed careers teacher said:

CGAC(SVS/B)Yes, there is a great need to develop occupational information for vocational students of all interests and abilities, particularly those in rural and non-

industrial areas. Such information should cover occupational opportunities, job descriptions, projected job demands and the current manpower needs as indicated in the Seventh Malaysian Plan. Therefore, it is incumbent on the educational policy makers to formulate a comprehensive careers guidance programme that offers a wide of options for vocational students in accordance with range individual abilities, interest, attitudes and skills.

This secondary vocational school has a good understanding of skills needs in industry. This is probably because information exchanges between school and companies regarding specific industrial requirements were satisfactory. However, most of the careers teachers in the vocational schools perceived their level of understanding about manpower needs in industry as rather limited, problematic and in need of improvement.

Assessment of skills needs in industry and sharing of the labour market information were pertinent issues investigated in this school-industry relationship. The study found that all careers teachers in vocational schools acknowledged some problems in assessing skills needs in industry, mainly due to economic fluctuations. Nonetheless, such assessments were considered crucial to develop vocational school leavers who would better complement the changing industrial demands.

A host of government and non-governmental agencies were suggested by careers teachers to assess industrial skills needs. They preferred the Ministry of Human Resources, the Manpower and Administrative Planning Unit (MAMPU) and the Economic Planning Unit (EPU) of the Prime Minister's Department to undertake these studies. Others named authorities, such as the Malaysian Industrial Development Authority, the Malaysian Institute of Economic Research, the Public Services Department Malaysia, the Federation of Malaysian Manufacturers and associated joint committees to shoulder the task.

The role played by the secondary vocational school in the provision of careers information will be discussed in the next section. For the most part the study relies on responses given by the sample, which may not give a complete picture of the information they actually receive, and this should be borne in mind throughout this section.

7.3.1 School Sources of Information: Experience and Guidance

Given the complexity of the process of movement from the secondary vocational school to the labour market, the study suggests that one of the most important influences on vocational stream students' occupational choice, or expectations, is the amount and quality of information they receive about sectors of the economy, occupation areas and specific jobs. A number of studies have emphasised the importance of adequate information in the process of occupational choice, and at the same time have drawn attention to a situation in which there is a lack of such information (Boreham and Arthur, 1993). The data from the research indicates that vocational stream students' occupational expectations are restricted by lack of knowledge about existing opportunities and inadequate help and guidance during the occupational decision-making process.

The traditional approach to careers guidance in secondary vocational schools could quite reasonably be caricatured by a picture of a pile of leaflets and pamphlets relating to career in one corner of the school library and a twenty minute interview with a careers guidance and counselling teacher a few weeks before the students leave schools. While this traditional model may still hold firm in some secondary vocational schools, they have been encouraged to make a more determined effort to help vocational stream students find jobs that will

make full use of their vocational skills and attributes. The increasing range of jobs and employment opportunities, especially for school leavers at 17, as a result of many manufacturing industries, has meant that more attention is needed to inform vocational students about jobs rather than sitting back and hoping they will find out about the different opportunities for themselves.

Euvrard (1996), in discussing the limited nature of the knowledge of school-leavers about occupations, draws attention to the fact that not only is the job information possessed by school-leavers minimal, but that it is also difficult for a student to acquire any sort of comprehensive job knowledge. The data from the research indicates that whilst various actions had been taken by the school they were still not as helpful as expected. General complaints by the interviewed students included the need for more work experience visits and lack of detail about the requirements of different jobs. This is clearly commented by the vocational stream students:

ST(SVS/B) To me the school is not really putting a great of effort into providing sources of information. What the counselling teacher always did was give counselling and careers talks for about 5 or 10 minutes during *Bahasa Melayu* (Malay language) class.....we can't get much information from that and it's not effective at all. It is different when we can attend a seminar whereby it is more motivated and exposed in terms of the careers information and job opportunities.Yes, the only source of career information that I can get is from the newspapers or some magazines in the library.I'm hoping that the automotive course teacher will organise an industrial visit to the local industries sometime in the middle of next semester before the final MCE(V) examination. I'm sure, that's will be more informative
(Male Student).

ST(SVS/C) It's important.....because it will help us to know more about the demand in technical jobs that is currently needed by the industry. The school should provide enough materials regarding career information to

the vocational students. Many of my coursemates did not know anything about their future career (*Female Student*)

ST(SVS/C)I think, most of the vocational stream students especially Form V in this school, really need more explanations about jobs' opportunities that they can get after they have finished their course from the career teachers. So far, what we have received are insufficient details for each course. It seems careers guidance and counselling teachers are not familiar with the jobs related to our course. All of them are from the academic and not from the technical background (*Male Student*).

As a point of comparison some interviewed students considered in retrospect that 'school has helped to give me confidence to make decisions' and 'school has taught me things which would be useful in a production job'. Nevertheless, a similar proportion agreed that 'school has done little to prepare me for life'. For some students information in the careers guidance and counselling room, guidance interviews with careers guidance teacher, seminars and work experience could be significant sources of information and advice that would help them to make personal choices and might form the basis careers action plans. For example, one of the students said:

ST(SVS/A) ...Since you are at age of self exploration, you don't know what you want, how you want it and when you want it to be. Whereas through careers guidance you start gaining self confidence and thus explore yourselves and your environment in a better way (*Female Student*).

Most students referred to the newspapers and magazines from their careers room and library at the schools (see Table 7.2). 402 students or 96.9 percent indicated such findings. The school newsletters were where the most students (357 students or 85.0 percent) never refer to these sources for occupational information. Also, 48.8 percent, 44.3 percent, 36.3 percent, 30.7 percent, 29.8 percent of the students received information from their teachers, visits to firms,

listening to talks organised by their schools, careers guidance and counselling teacher and friends respectively.

Table 7.2: Sources of Information on Careers Used by Form V Vocational Stream Students.

Sources	Frequency of Receiving		Rank
	N	%	
Newspaper and Magazines (school)	402	96.9	1
Teachers other than careers teachers	205	48.8	2
Radio and television programmes	198	47.1	3
Visits to local industry arranged by the school	186	44.3	4
Talks by different occupational holders organised by the school	153	36.4	5
Parents	131	31.2	6
Careers lesson, private talks or group talk by careers teacher	129	30.7	7
Friends at school or already working	125	29.8	8
Brothers and sisters	103	24.4	9
School newsletters	63	15	10

The data from the research indicates that it was striking that vocational stream students received much greater assistance from a course teacher. Why is this? Is it that course teachers in secondary vocational schools are more attuned to the world of work and, because of their own work experience prior to teaching, are much better able to provide such help? Is it that secondary vocational schools make a concerted effort to give such advice to their students? Do vocational stream students perceive their work-experienced teachers as more credible informants about the world of

work and as likely to be received as help from friends, relatives or siblings? Most of the secondary vocational schools in Malaysia played the passive role of just making sure these sources of information were available. Help from the careers guidance and counselling teachers were ranked seventh in position. As one Commerce student said:

ST(SVS/C) Emm (pause)..... I really don't know their role as a careers guidance and counselling teacher. From my observation so far in this school, the one who always sees them has personal problems. Maybe the role of the careers guidance and counselling itself are not being exposed to all the students.The school should give more effort to improve the careers guidance and counselling unit especially in term of careers source information. Err....right now, there are not so much career information that we can get from there except from newspaper cuttings, pamphlets and some old magazines (*Female Student*).

From the student responses to the statements on career information in secondary vocational school, it is clear that the vocational stream students would like more adequate and appropriate sources of information. The data from the research indicates that those who had made use of the careers guidance and counselling room and library were generally complimentary about the range of information available, but there were some criticisms of out-of-date material, lack of in-depth information on specialised areas, on apprenticeship, and on certain currently favoured occupation areas. The students were motivated on their own to search for labour market information in the school library. If such sources of information were more available, a greater number of secondary vocational school leavers might feel a little more secure when the time comes for them to make a major decision concerning this important transition phase in their life-span.

Within the secondary vocational school itself it would appear that course teachers provide more information in a purely formal capacity

(e.g. distributing sources of information) than in an informal or guidance capacity, where their role compares unfavourably with that of other teachers. Hill (1965) has in fact pointed out that the careers guidance teacher is a lot less influential on choices of career than might be expected, in that he found a near equality of influence of subject master and career master in his study of the career choices of grammar school boys. (Although these results do not support his other conclusion that the careers master is less of an influence than the Youth Employment Service). One further comment in the context of school sources in this study, relates to the fact that most of the vocational stream students wishing to enter industry or public sectors obtained a lot of information from source information provided by the school's course teacher:

ST(SVS/B)I think the careers guidance and counselling role in this school are more toward personal counselling rather than giving careers information. The school did not really expose the career activities.We (the students) lack sources of career information especially regarding local jobs opportunities. However, we depend a lot on our course teachers. Most of them have good relationship with the local industries related to their field and we have some brochures given by the industries through our course teachers (*Male Student*)

This form of data leaves no doubt as to the importance of this area for industrial and commercial organisations who are interested in recruiting at this level, but it would be of interest to know whether or not the information provided by this source is satisfactory, or whether the importance of the source reflects inadequacies in more personal or informal methods of providing information and advice?

The most influential schools' sources of information beside newspapers and teachers other than careers guidance teachers appears to be the visits to local industry and talks by different occupational holders arranged by the school. This is certainly one

way of bringing home to Form V vocational stream students the possibilities of different careers in different occupational areas. Again, it would perhaps be fruitful to have some indication of whether this type of careers activities does provide the right sort of information, or whether they only succeed in over-glamorising certain sectors and occupations (Kidd and Killeen, 1992). However, this is in conflict with the perceptions of the careers guidance teacher:

CGAC(SVS/A) I feel if this careers exposure can be valued, I'm sure there will be students working in that company. Even if from the student's industrial visit organised by the school, there are some students who will contact the company to get a job there after they leave the school. Through these activities I think both parties will gain equal benefit, the school can provide skilled students as workers and the employers can get skilled workers easily. There is one company who came to our school to give careers seminars and at the same time interviewed 40 students amazingly, all of them were employed. This means that the careers seminars and exposure really can help the vocational students in getting a job.

Careers seminars were interestingly seen as a pre-eminent source of information about occupations for many students and the overwhelming majority found them helpful. A particularly valued aspect was the opportunity to talk informally with occupational representatives. One female student said:

ST(SVS/B) Yes, last term holiday, I went to a seminar organised by an other school.It's really helpful because I had a chance to talk to the presenter from the industry during the seminar who knows about work and what different jobs offer (*Female Student*).

Some students found these opportunities provided answers to questions or suggested new career ideas:

ST(SVS/B)You could ask real things you wanted to know and get to know about things or careers opportunities you hadn't really thought about especially technical jobs (*Male Student*).

Students rated the careers seminar according to whether their own occupational interests were valued. Some interviewed students mentioned that they have failed to take up the opportunity for questioning the expects, suggesting that these students would have benefited from better preparation by the school before attending the seminar.

Guidance interviews in school could also be influential in focusing or orienting students' occupational expectations. Yet students made few explicit references to the role of their careers guidance and counselling teacher as being instrumental in their choice of occupations. Perhaps this was because their role was more concerned with introducing students to relevant sources of information, advice and opportunities, such as work experience, by which they could augment their vocational knowledge and skills. Some vocational stream students held the view that careers guidance teachers 'don't really know about jobs' and even considered that their teachers were not really interested in their career decisions or choices.

The data from the research indicates that careers guidance teachers in secondary vocational schools need to attend to the special obstacles and potential 'leakage point' when helping vocational stream students prepare for skilled jobs. Obstacles likely to be experienced by females: (a) low self-esteem and low career self-efficacy, particular concerning maths and science abilities (American Association of University Women, 1991); (b) gender role stereotyping (Fitzgerald and Betz, 1983); and (c) lack of support service and isolation in the classroom (McBride-Bass, 1993). The study was parallel to Mau et al.'s, (1995) argument that providing information about non-traditional careers to the female vocational stream students should allow them to make educated decisions about their future

occupational choices and the important issue is to start early to prepare female students for skilled employment.

The data of the research suggests that serious attention needs to be paid to secondary vocational school guidance programmes. All the secondary vocational schools in Malaysia should have professionally qualified careers teachers and they should make real efforts to assist their students in making them familiar with a wide range of jobs available in national and local areas, and with academic and training requirements for these jobs, so that they can realistically fulfil their occupational expectations. In addition, females student from lower socio-economic strata need more guidance in choosing their occupational choice, and they need much more encouragement for aspiring to professional positions in the world of work.

7.3.2 Out-of-School Sources of Information and Guidance

Vocational stream students had access to a range of out-of-school sources of information, experience and guidance about career opportunities, and some informal sources could be highly influential in terms of their perceptions of opportunities. The family was the key, and often the single most important informal source of information and guidance:

ST(SVS/C) I have talked to my parents about the most suitable job which is related to my course studied and they've helped me quite a bit, telling me the prospect of the job in the future. Anyway, I didn't hope for so much advice regarding my field of career from them since they don't know much about it (*Female Student*).

Taylor (1992) sees a range of external sources such as family and peer group as important influences in the context of pre-work socialisation, and formal outside influences, such as the Youth Employment

Service, as related to the stage of socialisation concerned with entry into labour force. Regardless of the specific theoretical framework, these information sources appear to be generally acceptable. It was assumed that information on careers within different economic sectors could be classified as coming from three major sources: school, home and external sources. The data from the survey indicates that the percentage scores of nine out of ten items fall less than 50 percent, indicating the ten sources of information were not as helpful as expected to assist students prepare for future occupations and fill the manpower needs of the country (see table 7.2). Radio and television programmes, parents, and brothers and sisters were three, other important sources placed third, sixth, and ninth in the hierarchy of ranks. The study includes these three sources of information as the only home and external sources outside the school environment, and surprisingly, these three sources were important sources of information that provide information on job requirement, salary, changes of promotion and others. The study supported the point made by Keil et al. (1967) and Gul, Hung and Subramaniam (1992) that family, neighbourhood, peer groups, education received, influences from mass media, the extent of formal careers guidance all need to be considered as influences on occupational choice. However, within these areas there are variations between individual sources, and one interesting aspect of this is the slight impact of the careers guidance service. There has been much discussion and criticism of the role of the careers guidance service, and the results here tend to support these criticisms and indicate the lack of success of the service in the provision of information.

The importance of parents is shown in their influence on occupational choice as has the fact that this can be either a positive or negative influence. The point has been made that with local and national changes in technology, changes in job skills, and in the demand for

labour, it is unfair to expect course teachers and careers guidance teacher to keep abreast of such changes, in which case it could be said that it is even more unfair that parents will be able to cope in this respect. Certainly given the results (see Table 7.2), that parents do provide a lot of information for 31.2 percent, of the respondents, attention should surely be focused on the quality and accuracy of this information and the way in which this situation could be improved.

The data indicates that an examination of the out-of-school sources of information the two most important sources are parents and friends already at polytechnic or advanced skilled centres. Friends could also be helpful, sometimes more so than relatives, especially for information on particular occupation experience, polytechnic reputations and course provision. They were also the source of a general impression that jobs were fairly easy to come by. Friends were a significant influence on occupational choice for some vocational stream students, though there was little, if any, impression that they had undue influence:

ST(SVS/A)The people who really gave me any useful information about work were by my friends..... I think, friends outside school are important because they're about the same age as you yet they can tell you, what one kind of job is like and also what prospects they have because they've had some experience (*Female Student*).

ST(SVS/C)I want to follow one of my friend's step. He went to Ungku Omar Polytechnic taking an engineering course after graduating from vocational school. He's really helpful, he helped me make up my mind before entering secondary vocational school (*Male Student*).

The data indicate that there appear to be some interesting differences, in terms of major sources of information utilised, between those students wishing to enter labour market and those wishing to enter education. Those with an industrial orientation appeared to rely very

heavily on career information provided by the schools' course teachers and appeared more likely to obtain information from friends already working. Those wishing an educational carer utilised polytechnic or advanced skilled centre prospectuses, friends at polytechnic and home sources rather than those desiring to enter the world of work.

However, there were efforts made by the secondary vocational school to help vocational stream students in preparing for future occupations but these were not effective in enabling the students to be aware about conditions of employment in the labour market. As a result, students on the verge of leaving school and entering the labour market, were not aware of the economic demands of the country which goes some way to explain the finding that vocational stream students' occupational expectations were not determined by considerations of national manpower requirements. Also, students' unrealistic occupational expectations and the low influence of entry wage, and job location on students' occupational expectations could be explained by lack of adequate information about career, as illustrated by the following comments from the students:

ST(SVS/A)I think, now there is a shortage of skilled workers in our country but I'm not very sure in which specific area *(Male Student)*.

ST(SVS/B) Em....I don't know really, what type of job is most demanding in industry nowadays because I have no experience of looking for a job. It is to be hoped that careers guidance teachers will tell us about it before we leave school *(Male Student)*.

ST(SVS/B)Yes, nowadays electronics is one of the vocational skill area which is in high demand. However, I think skill jobs related to ABM (Machine Shop Practice) are much more needed by the high technology industries. The shortage of labour force in this field is because people are not given enough information whereas this area of skills is expanding rapidly in manufacturing industry.

ABM is not only related to the lathe machine but it includes computerised machine technology as well as robotics in manufacturing technology (*Female Student*).

There is a need on the part of schools to gear towards effective dissemination of career information so as to aid and equip their students with the necessary information, since the majority of them will be leaving the school system to join the labour force in the near future. The aim is to enable the students on entering the world of work to be prepared and equipped with the necessary occupational information. Hopefully they can then make the most realistic choice of occupations compatible with the needs of the country and related to their aptitudes and abilities.

Also, societies expect secondary vocational schools to develop in their children the knowledge, attitudes and skills which will enable them to contribute to the economy. Student and their parents, too, expect vocational schools to help them enter a worthwhile job. This can be seen from the interviewed students in responding the question concerning the reasons for going to secondary vocational school:

ST(SVS/C) I think, now the industries in Malaysia demand more on engineers and skilled technicians.....for sure many skilled jobs are available. This is one great opportunity that I should grasp. Motivation from my family is also one of the reasons for me entering this school even though they have to spend a lot since I'm staying in the school's hostel. I'm happy with the current vocational school system because the curriculum of the academic subjects like Mathematics, Science and Malay Language are equivalent to the academic schools and also it's an advantage for vocational school leavers that they have specific skills. Most of my friends from the vocational school can get a job easily and normally, they were offered jobs by the companies before they left the school (*Male Student*).

ST(SVS/B)To me, there's nobody in particular who forced me to come to this school (vocational school). It's because I really like working in business management field. Today, due to the effort of this country to become an industrialised country, they need many professionals, administrative and managerial workers.I think the enrolment for vocational school is in high demand because the certificates of MCE(V) are equivalent to MCE in terms of academic's curriculum. The vocational school leavers in business management have advantages towards getting a job because they have basic skills and experience in this area (*Female Student*).

Although most educators agree that one of the roles of the secondary vocational school should be to prepare all students for the world of work, whether the stop be an industry or a university, they cannot agree on how best to achieve most effective use of manpower and to provide an effective link between school and employment. There is much of vocational education that is not directly aimed at preparing students for work. The problems arise in attempts to gear vocational education to the present and future world of work. On one hand, the choice among occupational offerings is in the hands of educational planners who are under pressure to tailor the problems to the more immediate manpower needs. On the other hand, manpower needs are being adjusted so quickly that education content has short relevance for the students seeking jobs. The lag between what is taught in the secondary vocational school and what is actually demand by the labour market constitutes a related problem.

7.4 Conclusion

This chapter has been concerned with the manpower needs and role of occupational information in the process of occupational choice. The discussion of the most important theories of occupational choice

revealed that the provision of occupational information plays an important part in the process of occupational choices. The vocational stream students have two important sources of occupational information: school and out-of-school.

The vocational educational system with limited information has guided students to tracks that do not adequately prepare them for realistic future opportunities and for the shifts and adjustment processes of the labour market. In general, as cultural and economies become more complex, an occupational system is evolving requiring more information about its workings since the number of possible occupations are multiplying. The vocational stream students should have clear knowledge about the work, salary, social status and conditions of the labour market. Unfortunately, from the schools point of view, the vocational stream students appear to have gained very little from these efforts.

More careers seminars and visits by industry representatives would better inform students about the nature of their respective career, and students may subsequently develop more realistic requirements and expectations of their chosen careers.

Careers guidance and counselling which should be part of the education process is conspicuously missing from the curriculum. The need for careers guidance and counselling in Malaysian secondary vocational schools cannot be overemphasised. Some of these needs are closely allied to the manpower needs of our rapidly changing economy, while others have been the result of Malaysian democracy, machine technology and the imbalances in the labour market. Secondary vocational schools must seek ways of liberating students

from lack of careers information, so they can seek entry into occupations according to their abilities, aptitudes and interest, and within the context of labour market realities. Without these circumstances, without guidance, most students will have unrealistic occupational and educational aspirations.

The most important influence upon the choice of occupation, source of occupational information, and suggestions of possible jobs would seem to be the parents and family of the student. The quality of information given remains an issue for further explanation.

Finally, careers guidance programmes and sources of information become even more important for the security and prosperity of secondary vocational schools in Malaysia. Guidance facilitates the placing of students in the educational, social and occupational positions where their skills will contribute the most to society in line with their interest, aptitude and training. While vocational education will meet the needs of a rapidly changing world of work it also facilitates developing skills, understanding and the appreciation of knowledge and information needed by students to enter these fields. This knowledge is necessary for vocational students to make progress in useful and productive employment in industrial and service occupations. The research findings support the view that adequate and appropriate education and timely information are vital for the matching of students' occupational desires with manpower needs. In the next chapter, the influence of causal and institutional factors of occupational choice will be discussed.

CHAPTER EIGHT

OCCUPATIONAL EXPECTATIONS: INFLUENCE OF CAUSAL AND INSTITUTIONAL FACTORS

8.1 Introduction

Occupational expectations involve choices and decision made by the student, which affect their career path, progress and success (Melamed, 1995). This perspective views the individuals as active in changing and shaping their career prospects. At the macro level, there are choices that were made before joining the labour market. These choices bear the greatest impact on the young people's occupational status, and the negative effect of wrong choices can hardly be remedied, especially at later stages of one's career. Examples of occupational expectations include which occupation to enter, which job to apply for, which organisation to join, and in which industry. The first full-time career occupation taken tends to indicate the career path that will be followed by a young person. Similarly, the level of education will determine the type and level of jobs a young person will take.

It is normally expected that students who are enrolled in secondary vocational schools will seek employment on completion of their studies although some may further their education to the higher institutions. At some point or other, these students will identify their careers. What considerations influence their choice of careers? What other than manpower needs may affect students' occupational expectations? Clearly, choosing one's occupation is only the first step in the transition from vocational education to the world of work. To contribute to our understanding of the career influences, the present

Chapter discusses the following: the role of the family background in students' occupational expectations, the influence of gender on occupational expectations, job-related factors and course specialisation and occupational expectation matching.

8.2 The Role of the Family Background in Students' Occupational Expectations

It has been established that the greatest single influence on the choice of occupation is the home. Its general atmosphere is said to orientate children towards particular levels of employment. But, with a few exceptions, parents are considered to be ill-equipped to advise on the choice of work as they often lack expert knowledge considered essential in career making decisions. Their knowledge is generally confined to jobs which they or other members of the family are doing or have done. Although this knowledge may not be expert enough to enable them to give occupational guidance, parents and/or family members are an important source of labour market information for young people not only in terms of providing information about particular jobs, such as what the job involves, wages and conditions, but they also prove to be an important information channel when young people actually come to look for work. The home probably is ill-equipped to offer careers guidance, but its function as a channel of information about particular jobs should not be underestimated. This is clearly acknowledged by one careers guidance teacher:

CGAC(SVS/A)I had doubt that an adequate careers information will influence all students in their occupational choice. I would say the first factor is interest, because if they are not interested in a certain job.....nobody can influence them in their careers decision making. But sometimes the students can't get their first choice of the course that they want and just accept the course being offered by the school.Through my previous experience family factors can also give a great influence especially to the Malay students. No doubt a few

parents still don't want their children especially girls working far from them due to their safety. For the boys the parents may not believe that their sons can be well behaved when being apart from them. For these reasons the occupational choice of the students are restricted only to their local area.

The data indicates that parents have vital experience of working life which they will be able to describe in detail to their offspring, whereas careers guidance teachers may often have more limited personal experiences to relate. Personal contacts of the students will be able to recount the daily routine of particular jobs of which they have experience, the highlights, the boring aspects of the jobs which are unlikely to be included for example in the glossy literature to be found in careers libraries. This type of information should give students a realistic appreciation of what working life is about, which may be of more use and relevance in the occupational choice decision. In this section therefore we will be attempting to consider the importance of the home and family as a channel of occupational choice.

The study shows that the influence of the parents and families of vocational stream students has an effect in different ways at different times. The SES character of the home has an influence on achievement of the student at school, and through that on their level of occupational expectation. How this influence operates is hard to discern (Ryrie, 1983). The influence of different life-styles, patterns of relationships and interaction within the home are significant factors in regard to how a student performs within the school system.

The life of the home within a local community, and the relationship of students with parents, family and neighbours, provide the background or source from which many students draw the ideas from which their occupational expectations are made during the later stages of school. It is within the life and relationships of the home that

students develop important aspects of their understanding of themselves and their identity. The data from the study indicates that many parents had helped their children to identify what they were interested in. This is confirmed by the following student response:

ST(SVS/B)At the time when I applied to vocational school, my father told me that this MSP (Machine Shop Practice) course is good for my future. I was interested in taking automotive course at first, but my father said that there are many people who had already involved in this area were going nowhere. It's different for MSP course whereby it expands with the technological development and the job opportunities are also good. He says, 'You can be an expert in CAD/CAM in the manufacturing industry'. Therefore, I chose this course. He gave his full support and I think that what he had said is true (*Male Student*).

In this regard, the issues of vocational stream students should be equally viewed not only from the satisfactory entry qualification and selection criteria, but also on the satisfactory arrangements for guidance and counselling on the progress of their study and their future career.

Furthermore, through the network of common life in the community, of which home and parents are the centre, students gain the meaningful experiences which, put together with their self-understandings, give rise to particular expectations or job choices. When the student comes to the end of their schooling (Form V), parents frequently mediate between their expectations and the labour market, helping them both to adjust their expectations and also to find points of entry into the structure of opportunities. The influence of parents, however, is not usually exerted through direct advice or deliberate expectation, except insofar as they may help them directly to find job. Homes are places of relationships of different kinds and qualities. Usually the influence of parents is helpful and supportive for student during this process. Obviously this cannot be so in every

case. Some parents will be neglectful or careless. Some will give advice which is unwise or unhelpful, or push their children in directions of their own choosing. But generally vocational stream students spoke positively of their parents, welcoming their interest and help, even though in many case they were not given, and did not seek, specific advice:

ST(SVS/A)I have no doubt that my parents were always giving me advise from time to time but I think they (especially my father) were not really very helpful in terms of education and careers knowledge. He is not in favour of giving advise on how to achieve my ambition. At the beginning, he was not too happy with my decision of coming to this school (secondary vocational school) because he just wanted me to continue at the academic school. He said, 'I want you to be in science stream after LSA (Lower Secondary Assessment) and technical stream is more suitable for boys. I was shocked because I need to be in the vocational stream. Anyway, at last they agreed with me. That's why I'm here (in the vocational school) now. However, last semester break my father asked me what was my plan after completing the course. I told him that I'm very interested in doing a diploma course in advance production at GMI (German, Malaysia Institute). Again, he refused to accept my plan instead he wants me to further my education at the polytechnic. I thought maybe he don't want me to have a skilled job.Yes, as a Muslim, I must always respect my parents and be patient with them, and for sure they will understanding what I want in my future career (*Female Student*).

Based on the data above, therefore, parents should not be seen as factors affecting the process in the same way as the other factors, each of which represents a different stage or aspect of the occupational choice process. Instead, we should see parents as providing, through the relationships of the home, a background, a point of reference, an enabling support through the whole process.

The personality approaches represented by trait-factor theory through that needs, values, and behavioural style, fail to discuss the role of

family influences on occupational choice in any particular manner. Values and needs are seen as being shaped in a vague way by the family context. The family contributes to the situation context as seen by the behavioural style approach and to the traits the individual develops with which the trait-factor theorist is concerned; not much more than passing attention is given to the family by proponents of these views.

To Super (1953), the family plays a critical role in the formation of the individual's self-concept and in the provision of a context for its implementation. To Ginzberg (1951) a social system theorist, the family creates a highly significant situation which plays a major role in determining the specifics of the career decisions an individual will take. Factors associated with family membership determine an individual's social class, financial resources, and attitudes toward work. In the view of Ginzberg a poor family will accelerate the career development of their offspring, but will not alter in any significant way the sequence through which he or she goes. In addition, the lower-SES family is likely to be more passive in its general behaviour and attitudes than middle-SES or higher-SES families and thus its members may try to exert less direct influence on their career patterns than higher-SES or middle-SES people. This is confirmed by the following student response:

ST(SMV/B) I think I have fulfilled my parents' needs by taking up Electronics course in this school which my father had proposed last time. Anyway, soon or later he wants me to be an engineer like him. The same thing to my occupational aspirations because without their support, everything that we've done seems meaningless
(*Male student*).

The data indicate that it seems obvious that family factors are important to career decisions, both in the determination of the

situational variables involved in career development (such as educational, economic, social support and reinforcement, and the provision of a context for work) and in the intradividual variables (such as the physical and psychological characteristics that have a genetic component) (Gaskell, 1992). It is striking that so little theorising has been done to relate explicitly the role of the family to occupational behaviour, particularly when extensive data exists showing how the family background influences the kind of initial choice made.

It is very important to check with the vocational stream final year students about their reasons for occupational expectations, because their responses may provide additional clues as to how vocational students actually go about making their choices - what factors influence them most, whether these choices ultimately are just chance outcomes, which family members have more influence? This information is also useful because it will tend to support, qualify or question the existing theoretical explanations of how young people arrive at their occupational choices. There is every need for these explanations to be sharpened if they are to be of value to those who seek to apply them to the real world of the school-leaver.

The category 'tradition-directed' by Veness (1962) is particularly interesting from a theoretical point of view since it is not a reason for occupational choice that is easily accommodated by the developmental or differential theorists. If school-leavers do choose occupations often only because of family tradition, it suggests that Roberts' conception of opportunity structures might be expanded to include the family. The family might thus be seen as a structure which has a significant influence on the student's occupational expectations, and therefore the occupational histories of those within the family could be seen as

forces, shaping the most likely expectations for the school-leavers. Hence the family would represent another structure (other than school and work organisations) which will tend to limit or expand student's opportunities. The data that indicates the 'tradition-directed' category from the interview question 'How did you decide that you wanted to do this kind of occupation?' was shown for a substantial proportion of all interviewees. As one student said:

ST(SVS/A)I want to do a car body repair.....well I got the information and work experience from my father. I asked him if I could work for him at the final semester holidays last year and then he offered me to help him in the workshop. It's interesting because you meet many people. At the moment, I just do the rubbing down and a bit of spraying when I have the time. Err.....My father, he's a mechanic and had his own workshop. My mother wasn't so suprised because she knew I was going to end up in a skilled job. Mostly vocational school leavers will do it.I doubt of going for that job if my father wasn't a mechanic (*Male Student*).

The data from the research indicates that the parents were the key, and often the single most important information source of guidance, information and influence which is parallel to Bynner's (1988) and Stevens and Mason's (1994) previous studies. Parents were often perceived as influencing decisions by transmitting messages about the students' suitability for different types of occupations. Some interviewed students mentioned having been helped in this way and others' evaluations of the suitability of occupations were in general readily accepted. Remarks of three vocational stream students serve as a good example:

ST(SVS/A) I had discussed earlier with my father regarding my education and future career before entering SVS (Secondary Vocational School). We discussed everything and he brought up ideas that really helped me make up my mind.He encouraged me to discipline myself if I want to be self-employed in the field of the automotive. He helped me quite a bit, telling me all the different sort of things I can do (*Male Student*).

ST(SVS/C) My mother wanted me to do architecture because I like drawing and art. I told her that I wanted to be an electrician and she said no because I'm not good at maths looking from the result of my LSA (Lower Secondary Assessment). Then she says, 'You're good at art, why don't you be an architect?' So I started doing that course here (secondary vocational school) and it was really from my mother's idea (*Female Student*).

ST(SVS/C)Before I entered SVS, I was offered Principles of Account Stream in the academic school. I asked my father's opinion and he told me that I must work very hard if I want to choose this stream. However, he preferred me to take Engineering Trade in the Secondary Vocational School. He says, 'You're good with your hands. You seem to understand how things work. You will be good in vocational skills' (*Male Student*).

The three modes of influence discussed above (communications about self, about occupations, and about the suitability of occupations) are all part of a process which Woelfel and Haller (1971) call 'defining'. Definers influence by direct communication, interaction, imparting information about the 'focal individual' him/herself, and/or about the options available to the individual, and/or about the relationship between the two.

Interestingly, the data indicates that brother(s) and sister(s) in the family are also helpful, sometimes more so than skilled and semi-skilled parents, especially for information on particular occupational experience, college reputation and course provision. They were also the source of a general impression that jobs were fairly easy to come by. For some, their brother(s) and sister(s) were significant influences on their occupational expectations, though there was little, if any, impression that they had undue influence:

ST(SVS/C) My brother is really helpful, he helped me to make up my mind (*Female Student*).

However, attitudes to employment vary not only from one ethnic group to another, but also from family to family and even within families. As one careers guidance teacher said:

CGAC(SVS/B)We have to look at the courses e.g. automotive or electrical. What I know, there are many of them (Chinese parents) who prefer to work with them and once their children have some experiences, they like their children to be self employed. Furthermore, I can say that most of the Chinese students when they enter vocational school they already have their vision. However, most of the Bumiputera and Indian students just take whatever jobs they were offered although not related to their course.

The vast majority of interviewed students hoped to work after completing their vocational education. Only a few of the parents wanted their children to have the same job as themselves, thus expressing their desire for a better future for their children. Correspondingly, no female vocational stream students wanted to do the same job as their father or mother which is parallel to Taylor & Hegarty's (1985) and Mirza's (1992) previous studies. This, however, does not imply that they do not respect their parents for working in those occupations, or are ashamed of them. Rather, it indicates that they aspire to a better life than that of their parents:

ST(SVS/B)Since I'm taking Refrigeration and Air-conditioning course now, I don't want to be like my parents. My mother is a housewife and my father is a rubber tapper. I think a housewife has too much work to do and it's really boring. She's always working, looking after the children and the house. And I know that rubber tapping is a hard work and you don't make a good living from it. I think by having vocational skills, you can get better jobs (*Female Student*).

As is clear from this statement, the ideology of the male breadwinner and the supposedly non-working housewife has undermined the status of housework as work and has placed a negative value on being 'just a housewife' (Wetherell et al., 1986 and Marshall & Wetherell,

1989). The Bumiputera students in the sample aspired to a wide range of profitable careers with high status. Some mentioned the jobs of engineers and government executive officials; others named the caring professions, such as teaching. Others referred to blue-collar occupations, such as working in industry as a production supervisor or technician. However, some parents, while keen on their children to have a career, had reservations about certain fields of study:

ST(SVS/A) After the LSA (Lower secondary Assessment), I decided that I wanted to do nursing, my father didn't approve it at all. He said, "to become a nurse, you'll have to be really patient".That's why I come here (secondary vocational school) and he is really happy with my future plan to continue my study up to university level to become an engineer (*female Student*).

Apparently, this father perceived nursing as an occupation of low status and low earnings, in which one had to work hard in predominantly male company. Conversely, though, another father readily acquiesced to his daughter's choice of occupation:

ST(SVS/B) I came from a teacher's family.I'm the only daughter in the family taking a vocational education.My father is a secondary school headteacher and my mother teaching at primary school nearby our house. Yes, because I'm girl, they would like me to be a teacher too, but I want to be a draftsman in the private sector. So, after I came to vocational school, they have left it to me to make a decision as to what I like and what I want to do to fulfil my ambition (*Female Student*).

Again, this diversity of view cautions against particular assumptions and stereotypes regarding parents' attitude to occupational choices. Like other researchers (Kitwood and Borrill, 1980; Stopes-Roe and Cochran, 1984; 1988), the research found little evidence for conflict between students and their parents over important life issues. The study reinforces these overall impressions. The great majority of the vocational stream students interviewed reported both parent interest and support for their vocational and occupational aspirations.

The development of occupational choice is a complex process. Roberts (1971, 1977) argues that people don't typically choose occupations in a meaningful sense. They simply take what is available within narrowly-spaced, horizontal social-class barriers. Nevertheless, Gottfredson's (1981) developmental paradigm of occupational aspiration encompasses both structural and individual factors. It implies that occupational choices are gender/sex-based, class/status-based and ability/attitude-based. These phenomena were manifest in the occupational expectations of the vocational stream students in this study. As far as parental advice was concerned, the majority of the Bumiputera students maintained that their parents wanted them to attain qualifications, and allowed them to choose any occupation, within reason, that they were interested in. This does not necessarily imply a partial or total lack of interest on the part of the parents, but rather, shows that though the parents were not able to offer tangible guidance to their children, they nevertheless discussed educational and career options with the children and encouraged them to choose occupations that interested them, provided they did not clash with their religion and culture. There was evidence of additional dynamics of occupational preferences which were religion-based, as can be seen from the following student's comment:

ST(SVS/C) To me, to be a good Muslim, we must consider our parents needs. In order to satisfy their hope regarding my future career, I must get a job in an industry that is not making a product that's against the Muslim rules. For example, my father told me that it is not worth at all having a good job with a good salary at a beer industry (*Male Student*).

ST(SVS/C)My father always told me that Islam doesn't prohibit or restrict unnecessarily, it only tells us to abstain from wrongdoing. He said, after I get my MCE(V), I can do any kind of work as long as it is not against the religion (*Female Student*).

The data of the study indicates occupational choices are contingent on religious and cultural value too. Thus while the chosen job has to be of a high SES, it should be respectable and not involve them in non-Islamic activities. This indicates Bumiputera (Muslim) students' desire to better themselves, but not to the detriment of their religious identity. Nevertheless, there are certain jobs about which the parents have serious reservations, there are others which they can be persuaded to allow their children to go into.

The occupational choice is not a straightforward matter. The vocational stream students appear to consider a variety of factors when making occupational choices, but Brookes (1983) notes that despite extensive evidence to the contrary, the debate over the occupational aspirations of young Asians continues to be dominated by 'unrealistic aspirations'. This was manifest in the remarks of one careers guidance teacher in this study:

CGAC(SVS/B)The aspirations of the parents are phenomenal. They don't seem to have any idea of what the children can actually do. Sometime it seems that their children are being forced to do certain types of jobs of their preference. I can understand the desire to be there in terms of, perhaps, financial reward and also to establish themselves, but the parents don't seem to be aware of the capabilities of their own children.

The hopes and aspirations of vocational stream students are, to a large extent, moulded by the people they meet and the kinds of employment open to them in the areas where they live. Their occupational expectations are frequently made within a framework of reference which is only wide enough to include those aspects of employment pursued by members of their family, relatives or friends in the neighbourhood. It is clear that jobs are often more related to home circumstances than to potential and ability (Douglas et al., 1968a). As some students said:

ST(SVS/B)I think it comes from my own enthusiasm. Besides that, it was influenced by my good friend who is now studying in the Ungku Omar Polytechnic. He had given me advice about what I should do if I have good results or if not, what kind of careers opportunity I should be involved in. I think there are no other reasons even from my teachers at this school.That's right, my father was an ex-army officer. I want to be in the army but I can't because I have 'gastric'. I think I want to have a better job than my father because being a soldier too is not well off (*Male Student*).

ST(SVS/B)To me, my brother and other members of my family are the ones who influenced me a lot regarding my future career. But my brother was the one who has been encouraging me all the time. He has been a senior supervisor for many years in a factory that produce gasket for cars at Pasir Gudang and he has a lot of experience and skill in his work. Err...he was an ex-student of SVS (Secondary Vocational School) in the automotive field (*Female Student*).

For a vocational stream student thinking about what job they would like to do when they eventually enter the labour market, the first kind of help needed is suggestions as to likely occupations which will complement their particular abilities and attributes. In Malaysia, in which the division of labour is well established the number of jobs open to an individual is huge and it is therefore important that specific occupations which are likely to be within a student's capability are identified, through their own efforts and observations, and by others making suggestions to them. It is only when students have narrowed down the number of occupations in which they could be employed to manageable proportions that they can begin to seek out information about a particular occupation. They will then be in a position to make a choice between various occupations. Students receive occupational information from a large number of sources and at differing times in their lives.

Parents of different status have different ambitions for their children. The data from this study indicates that students whose fathers had professional or intermediate occupations were more likely to be high-aspirers than those whose fathers were skilled or semi-skilled (Rauta & Hunt, 1975):

ST(SVS/B)I hope one day I can have a job at least like my father now. He (father) works at the Food Industry as a production line supervisor.Anyway, I don't want to be a school teacher like my mother.that's the career she prefers me to be. Well, being a teacher, you don't get a good salary compared to the private sector. Furthermore, I think there are limited opportunities to get a job in the government sector especially in the field that I'm taking now which is Machine Shop Practice (MSP). My brother told me that in the private sector, you will be paid 3 times higher than in the government services (*Male Student*).

These low expectations of manual working-class parents may reflect the real difficulties many talented vocational students have in attempting to enter the professions when they lack skilled advice and encouragement from their parents and schools. Parents who themselves enjoyed a high standard of education see the necessity of education for the future employment of their children, while others, who have failed to get the education they aimed at themselves, try to ensure that the chances they have missed will be taken up by their children.

Most parents did not pressurise their children about jobs; although some wanted their children to stay on at school. Parallel to Sharpe's (1976: 172) report, parental attitudes appeared to be: "It is entirely up to you, it's your life. Whatever you will be happy doing. You can do what you like except work in anything not quite respectable." The influence of parents and the lack of expertise with which to advise their children is noted by the careers guidance teacher:

CGAC(SVS/C)Parents themselves are often unaware of the extent of their own influence over their sons and daughters. This is especially for the lower income families. They are frequently confused and anxious about their children's future, although they may not always admit it, and many of them would welcome school careers guidance if they knew where to turn to.

Parents may unintentionally harm their children by supplying information and advice based on their own experience of the job market a generation ago. While parents are right to stress the need for training and qualifications, it must be relevant to the needs of the new technological base of industry and the information revolution. As Douglas et al, (1968b: 89-90) stated that:

..... education widens the horizon for each generation and this in turn affects the level of attainment of the children, shaping their ambitions for the future..... While the way is, in theory, open for all those who have the ability, the family can give are still important elements in the level of employment achieved by each individual.

Often it is the case that a member of the family is the principal influence on occupational decision. In many cases, a course teacher has influenced a decision, either by indicating enthusiasm or in exercising persuasive skills during theory or practical class in the workshop:

ST(SVS/B)I talked to my course teacher (Refrigeration and Air-conditioning) quite often about every aspect of things - what would I like to do - what sort of job would I like. He says, 'If you completed your studies with good results, you can further your studies to the Polytechnic. But if you are not doing good in academic subjects, you can go for your advanced skill at GMI (German-Malaysian Institute), MFI (Malaysia-France Institute), BATC (Business and Advanced Technology Centre) or work to get experience.'As usual he (course teacher) gave advice in the classroom and in the workshop. Sometimes he tried to explain when there is a student asking. This kind of guidance is really meaningful to me because my parent always has no time to help me about my career

plan.this will motivate me to study hard (*Male Student*).

It is clear that the vocational schools are attempting to fulfil their role of imparting information. Nevertheless, the careers guidance and advice provided by careers guidance teachers appears to omit the essential element of motivation. On the other hand, parent attitude, despite reservations regarding the suitability of certain fields of education and occupations, provides encouragement in helping the vocational student to realise their aspirations. Research evidence regarding students (Siann & Knox, 1992; Penn & Scattergood, 1992; Brah & Shaw, 1992) also explains their high aspirations and achievement in terms of parental support.

8.2.1 Father's Occupation

In this study, the students' socio-economic status is related to their fathers' education and occupation (Nagoshi, Johnson and Honbo, 1993), since, in Malaysia, these are the factors that determine socio-economic status of the family. Religion and customs have thus far weighed heavily against the use of women in the measurement of social status. This same approach has been adopted by Youmans (1965) and Uche (1980). Therefore, it is on the father's changing attitudes and values rather than those of the mother that successful development and social mobility has been considered likely to take place. Also, fathers typically have had greater opportunities for formal education. The data from the survey indicates that 78.8 percent of the mothers were self-employed (Table 8.1), 6.0 percent were Professional and Technical workers, 5.3 percent were employed as a Production workers and only 3.3 percent were in Agricultural jobs; the remaining percentages represented the number of students whose mothers were

employed as Administrative and Managerial, Clerical, Sales and Service by the public sector or the private sector.

Table 8.1: Percentage Distribution of Mother's Occupation

Mother's Occupation	N	%
Professional and Technical	25	6.0
Administrative and Managerial	9	2.1
Clerical	11	2.6
Sales	3	0.7
Service	5	1.2
Agriculture	14	3.3
Production Workers	22	5.3
Self-employed	330	78.8
Not Working	1	0.2

This illustrates the fact that Malaysian females form the bulk of retailing, petty trading, handicraft and subsistence production, while men engage or are predominantly in the area of manufacturing, public service and wholesale trade activities. Similar findings were reported by PREALC Studies conducted by I.L.O. (1975) in Latin America and the Caribbean. It is clear that a much higher proportion of the mothers were engaged in the informal than in the formal sector activities of the economy, while the reverse holds true for the fathers, thus making the father the role model in both education and occupation for students.

Past studies have been contradictory in their findings regarding parental influence on students' job preference. The data in this research indicates that vocational stream students do not follow their fathers' occupations, even their general occupational group (Table 8.2). The occupations of the fathers and students' occupational

expectations are summarised in Table 8.2. These gross figures indicate a weak relationship between the fathers' occupations and students' choice. For instance, 58.7 percent of students with fathers in Professional and Technical occupations aspired to Professional vocations. While 58.1 percent, 57.7 percent, 57.1 percent, 52.6 percent of students with fathers in Production Workers, Administrative and Managerial, Service and Sales occupations respectively preferred similar jobs. That is part of the general tendency

Table 8.2: Observed Percentage of Students' Expected Occupations in Relation to Their fathers' Present Occupation

Expected Occupational Categories	Father's Occupation						
	Prof %	Adm %	Cler %	Sales %	Serv %	Prod %	Agri %
Professional	58.7	57.7	33.3	52.6	57.1	58.1	39.1
Administrative	6.5	3.8	-	-	-	-	3.1
Clerical	2.2	-	-	5.3	2.9	4.7	1.6
Sales	4.3	3.8	11.1	5.3	1.0	2.3	4.7
Service	-	-	-	-	1.0	-	0.8
Production	28.3	34.6	55.6	36.8	38.1	34.9	50.8
Total*	100	100	100	100	100	100	100

$$\chi^2 = 32.896$$

$$df = 35$$

$$P = 0.057$$

* Percentage totals are approximated to 100

of vocational stream students in secondary vocational school to choose occupations higher in prestige than their fathers. This dissimilarity or step-up in students' occupational expectation could be

a result of their perceptions of changing economic environments, resultant shifts in labour market structure and school environment. The insignificant chi-square ($\chi^2 = 32.896$, d.f. = 35, $p = 0.057$) at the 0.05 probability level supports the analysis. The data from the survey indicates a total of 331 students who did not have their occupational expectations in the same occupational categories as their fathers' present occupations. A total of 45 students had their expectations in the same occupational categories as fathers' present occupations.

The data from the research support the view that socio-economic (father's occupation) background is related to occupational expectations of both male and female vocational stream students in Malaysia. Most of the female students with lower socio-economic backgrounds chose clerical and production work categories, whereas those with higher socio-economic background tended to be well distributed over the seven occupational categories. More male students with higher socio-economic backgrounds tended to choose professional and technical and administrative work categories than those with lower socio-economic backgrounds.

The vocational school environment, perhaps by virtue of its novelty in Malaysian society, provides support for unrealisable expectations and for a self-conception that contrast markedly with parent models. Schooling does indeed appear to create a discontinuity between the generations in these particular households. Parental attitudes and the great opportunities available in a strong economy in Malaysia are equally powerful in their influence over attitudes, values and aspirations. However, the finding from this study is consistent with Ahmad et al. (1991); Abdul Rashid (1988); Geo-Jaja (1986) and Foster (1965), that vocational stream students' occupational expectations were similar irrespective of social status. Generally, therefore, there is

a tendency for students to aspire to enter occupations other than their fathers' occupations.

8.3 The Influence of Gender on Occupational Expectations

It is not just schools and careers guidance that defines for the students what they can and cannot do with their lives. Parents, employers, boys, other girls even, all have certain assumptions about male and female, about what is appropriate for each, what is 'a nice job' for a male and female. Of course, the students do not just accept, or interpret in the same way, the messages that come through television, advertisements, school books, magazines, and the students do not just accept what other people are telling them. The students are all surrounded by do's and don'ts' and maybes and the choices they make are affected by them. This section aims to explore how far gender has influenced the vocational stream students' expectations of occupations and their aspirations for the future.

Sociologists suggest that occupations should be viewed as social roles that are defined by society and link individuals to the social structure, through subjective and objective aspects of status passages (Barley, 1989). The idea that occupations are social roles, rather than a sequence of jobs, suggests that the notions of occupation bear different meanings for male and female. The social roles that are defined by society, and link individuals to the social structure, are anchored very strongly to the gender dichotomy. The implications of viewing occupations as social roles are that the two sexes cannot be considered as one group when attempting to explain occupational expectations or choice.

Clearly despite the recent legislative changes which have outlawed certain discriminatory practices in Britain, and in parts of the USA and Australia, there are still attitudes and structural factors which mean that many occupations are numerically dominated by one or the other sex, and even when the total number of females in a given occupation is greater than or equal to the number of males, they tend to be concentrated at the lowest levels. If females move into 'male' areas they are made to feel awkward and fit in only by becoming 'one of the men', a result that is frequently found in studies of women trying to move into areas such as engineering. At times the exclusion of females will take the form of sexual harassment. Males who do 'female's work' may be seen as weak and possibly effeminate and it is noticeable that when males do move into areas of such work this tends to result in rapid promotion for them, even over the heads of existing female workers with more experience.

In Malaysian society engineering still tends to attract males. This is evidenced by the scarcity of female Engineering Trade students (only 27 out of 210) and male Home Science students (only 9 out of 90) in a year group sampled in this study. Engineering is conventionally characterised as a 'masculine' occupation because it involves working with machines and the application of mathematical and scientific knowledge. Although female representation in the higher-level occupational categories such as doctors, lawyers, engineers and middle and senior management, is gradually increasing, the inherent gender separation of jobs manifests itself in females generally tending to occupy secondary and subordinate positions within the same industry, occupation or profession. Yet, despite the segregation of the sexes into these and other sex-typed occupations Holland (1985) explains occupational choice solely in terms of 'personality' differentiation. Gender is written into his personality typology in an unreflective common-sense manner.

A consideration of female students in traditionally 'males's occupations and vice versa may provide an interesting insight into the organisation of gender-relevant occupational choice justifications. The data forming the research below is taken from interviews with female engineering trade students:

ST(SVS/A)Err, electronics is something that I wanted to do for a long time. After I got my LSA result, I decided to apply for vocational school in engineering trade course. My first choice was electronics and electrical was my second choice. I was accepted for my first choice. Emm.... my uncle was an engineer and just like him I want to do something constructive. I really didn't want to do a sort of female job, I wanted something more male-dominated.

What do you mean by a female job?

Well (pause), there're not many females working as engineers, they're sort of teachers or clerical workers, and I wanted to do something different. I wanted to do a job that I was equal in, not just sort of downgrade.

ST(SVS/B)I'm doing Refrigeration and Air-conditioning course here. It's an interesting course and I think I've made a correct decision.Err, I don't know the main reasons for taking this course. Maybe, it's because I just enjoyed practical work at school. Engineering subjects will always be my favourite subjects moreover when there's something to do with Refrigeration and air-conditioning system. I like to find out the way this system works and wanted to know more about the system.I'm not interested working in the office as women usually did. I think it's a boring job, you do the same thing everyday, just writing and typing. If in technical work, you will always discover something new. It's just more interesting.

The data from the research indicates that the female Engineering Trade students are not concerned to feminise engineering. They explicitly reject conforming to traditional expectations regarding female occupational choice. They also refer to their choice in terms of a status

difference between female and male types of work. Thus it is clear from the data that the female student regards predominantly 'social' type 'feminine work', such as teaching, as low-status in comparison to engineering, and 'investigative' occupations. The interviewed Refrigeration and Air-conditioning female student is more explicit about the 'investigative' reasons for her choice. She also contrasts clerical work which involves 'just going in and typing' with technical work which involves 'always discovering something new'. Therefore her stress on the 'investigative' aspects of her choice are presented as an alternative to what she regards as a dull routine career doing clerical work, traditional female work.

However, it is expected that females will not benefit from such occupational choices as men do. The barriers put in their way because of their sex are likely to hinder their career success, more so than in the traditional service-oriented female occupations. According to Melamed (1995) it might be even more beneficial to a female to choose a less powerful and prestigious occupation and try to make the most out of it, than to struggle in a more prestigious occupation. One Hotel and Catering female student agreed with this:

ST(SVS/A)I must get good result in my MCE(V) and go to the MARA Institute of Technology. I would like to become a lecturer in any collage or university. Beside giving a lecture, I have a plenty of time to do a part-time business such as food caterer. This is what most of the course teachers in this school did.It is not my ambition to be a manager in the private sector because as a girl, this kind of work is not that easy and I think it will pressure your daily life.

The data from the study indicates that some of the female vocational stream students find it easier to succeed in a job such as a lecturer or teacher, than as an electronic engineer, although the career prospects of electronic engineering in terms of salary, managerial responsibility,

and promotions are likely to be better. The career success gap between a teacher and electronic engineer is likely to be much wider for males than for females. Thus, although a career choice of an occupation is important for a female, its impact is likely to be more visible for a male. It is evident from the data that what constitutes a 'realistic' occupational choice is different for male and female students. Females are severely limited in comparison to males with respect to the range of jobs which they can consider open to them. As Sharpe (1976: 176-177) says:

Girls are not frustrated mechanics, engineers, lorry drivers, electricians, pilots, journalists and doctors. Most of them have an inbuilt cataloguing system in which the reasons and dogmas (for not choosing these kind of jobs) come under the section concerning common-sense and the way of the world.

The data from the research indicates that this kind of common sense which Sharpe identified in her study, is also apparent in students' answers concerning the lack of female students in the Engineering Trade:

ST(SVS/B)I think, because it looks like a dirty profession and female students tend to be cleaner and don't like getting their hands dirty. Again, you have to go back to the strength aspect of it as well, female students don't generally have as much strength as male students (*Male Student*).

ST(SVS/C) I don't know, but I think it goes back to social attitudes. It's ignorance as well, engineering trade is a dirty job and women traditionally have been from an early age dressed up in pretty little dresses, I mean social attitudes. Most of the female students in vocational schools think engineering trade is a too heavy course. And again it has no attraction of something as clerical work where you're dealing with computers and you envisage a clean environment and nice offices. That's why in this school there're not so many female students taking engineering trade (*Female Student*).

These views appear to be part of a popular ideology in which females are regarded as preferring clean and light work as opposed to dirty and heavy work. Associated with this position is the idea that being a male and female carried a sense of associated abilities (Gleeson, 1996). That is, that the cultural category 'female', for example, carries notions of being physically weak, dependent, and biologically unsuited for work in the manual or technical arena. However, the data indicates that vocational education students' attitudes concerning their competence influenced their learning. In relation to the females studying in Building Construction, that had traditionally been defined as male, gender identity appeared to get in the way when new skills were being learned. It was not that the female students were unable to take on the skills, rather, they appeared to have difficulty in equating what they were learning with their sense of themselves:

ST(SVS/C)Yes, I always wanted to take this course. I wanted to be a technical women.During the practical class I get help from the teacher and the male students as well. The most important thing is, I must understand and obey the safety precaution in the workshop. I feel confident when using all the machinery but on certain condition I need help from them (male students). I know that a women can do anything a man can do. I hope to join a construction firm after leaving vocational school
(Female Student).

The data from the research were parallel with Sonnenfeld's, (1989) classification that some vocational stream female students are more interested in the non-competitive organisation: those with a narrow product or market domains that prioritise retention, continuity, and reliability. As one female student said:

ST(SVS/C)I guess I am in the Welding and Fabrication course because of my father. We, being so close and him being in the same field. I wanted to work and gain experience with my father's own workshop after leaving school. It's not a big industry though, but the workshop is equipped with a various high technology machine to enable all kinds of welding work to be done.If I work as a skilled worker away from my family especially in the

big cities, I can't survive because the cost of living is very high.

Male vocational stream students, on the other hand, are more interested in open and competitive organisations, those who thrive on product innovation and creation of new markets and emphasise recruitment of independent creative expects:

ST(SVS/C)I would like to have a better job in manufacturing at private sector such as MISE (Malaysian International Shipping Engineering). It is my ambition to work in the private sector eventhough it is more challenging and needs a good skill. It seemed to me that the vocational school is ideal for me because the most needed qualities of today's vocational school leavers are adaptability and flexibility, together with basic skills that will enable me to undertake new technology change (*Male Student*).

This contributes to the distinction between vocational stream females' and males' student occupational expectations. Males and females do not just follow different career paths, or rely on different sources to enhance their success in their career future, but they also tend to operate in different environments. The labour market is already gender-segmented, and official figures of the gender make-up of industries suggest that there are currently female organisations and male organisations (Central Statistical Office, 1994). Thus, it appears that females who might be tired of the constant struggle in female-dominated environment are simply leaving to move to male-friendly organisations.

It seems obvious from the students interviewed that their attitudes to occupational expectations are generally set in stereotyped ways. They are choosing stereotyped occupations regardless of their vocational course choices. It would appear that it is virtually impossible to

escape from gender influences regardless of the equal opportunities now available to females.

During the interviews, the students were asked questions explicitly about gender stereotyping, whether they would consider entering an occupation predominantly held by the other gender in industry, and how comfortable they would feel if they ended up in such an occupation. Almost all of the male vocational stream students said they would not consider going into a predominantly female occupation. However, a few of the female students said the same of a male occupation. Most of the female vocational stream students said they would feel comfortable in a predominantly male job, but no male student said they would feel comfortable in a female one. There may be reasons for choosing a gender stereotyped occupation. Male students who said they wouldn't consider a predominantly female occupation made the following sort of comments:

ST(SVS/A)I think girls are not really suitable taking the engineering trade course especially like Welding, Machine Shop Practice and Building construction. Those girls in my class (Building Construction) always need help from the boys during the practical class because they can't do any heavy work. So, how can you aspect that they can do a very good job when they are employed as a skilled worker later. Again you have to go back to the strength aspect of it as well, girls don't generally have as much strength as boys.

Some of the female students made similar comments:

ST(SVS/A) You see at one time I wanted to be a mechanic.....I like that sort of thing and I'd worked with my father in my free time, but I thought there's nowhere to go with that type of job.....It's really a dead-end, not very exciting. I think if I asked for an automotive course here, I will be laughed at by other students because most people have been brought up thinking that girls must do girls' jobs and boys do boys'

job. I think most of the students in this vocational school are like that.

ST(SVS/C)Err, Business Management is a good course for boys and girls. I think If I do welding or machine shop practice and I'm not really good and interested in it, it'll be waste of time. I think if you do something like that and you're a girl you've got to be really good at it and prove it to yourself or otherwise you're not going to get a job.

There are also status differences in occupations expected by male and female vocational stream students. The kinds of occupations expected by the male students tend to be either high status professional occupations or lower status skilled occupations (both traditionally male):

ST(SVS/C)When I was still young, I already had an interest in Automotive. One of my brothers is doing his Diploma in Marine Engineering, so I was kind of influenced by him. Again, generally from an early age I was interested in cars and it stemmed out from there too. I wanted to work with PROTON (Malaysian Automobile Industry) as a production engineer. I am studying very hard now to make sure that I can get a good result in SPMV and hopefully continue my study to the Polytechnic. Although I'm doing an automotive course in this vocational school, my target for the future is not just to get a skilled job.I think to become a skilled automotive engineer you've got to have a very good knowledge as well as practical experience. During the industrial visit to PROTON, we were told that the production engineers must be able to communicate with other workers because all engineers there will supervise many workers under him and also being supervised by someone else. This kind of work is really exciting (*Male Student*).

ST(SVS/B)I don't want to do something involving maths even though I was okay with it. I want something that you can work with your hands as well. I don't like doing a desk job, well like an accountant, but I like technical subjects at school so Refrigeration and Air-conditioning seems suitable. I think it is better compared to a job that need you to sit around all day.

.....I enjoy gaining the vocational skills from this school and hoping to learn more about the new technology so that I can be a specialist in this area (*Male Student*).

The female students (especially in Building Construction and Machine Shop Practice courses) were also interested in some high level professional positions but more often chose technical teacher, traditionally female and lower in status than the male professions of engineering or production jobs. However, most of the female students in electronics and electrical courses tend to have higher status (if not necessarily higher pay) than the skilled male jobs:

ST(SVS/B)Err, although my father was a teacher, he took electrical engineering concentration for his degree and this had some bearing on it. That's the reason why I take Engineering Trade in Electronics. I realised that with this course it's quite easy to find a job. Anyway, I believe that it will not be very difficult to find a job because there are many industries here. In future, I will go on and do a lot of other things that entail working with industry such as do labour relations, marketing or even accounting, because I think someone who has engineering will do a better job compared to those who don't really know much about products, components, and other things like that (*Female Student*).

Although some overlapping has been identified in occupational expectations of both male and female students, significant gender differences were found in their choices of work categories. Hannah and Kahn (1989:164) suggested that females do not generally perceive male-dominated jobs as gender appropriate but, through various experiences perceive themselves to lack ability to do well in these occupation. The data from the research support the findings of several earlier studies (Lueptow, 1981; Mclaughlin et al., 1974) which showed that female vocational stream students who choose male-dominated occupations do so at the professional level, but job choices at the low prestige level are more strongly gender segregated. The data also supports the conclusion of Hammonds and Dingley (1989),

that males and females still tend to follow traditional patterns of occupational choices; males having higher career aspirations, than females.

One reason why females are traditionally confined to bad jobs is their lack of access to education. According to How-Ling (1991) in much of rural Malaysia, females are still regarded as second-class citizens and parents are reluctant to invest their limited income in a daughter's education because (i) they will obtain a lower premium on their investment because of job and wage discrimination against women in the labour market (ii) the time span over which they could benefit from this investment is limited as it is assumed that the returns will accrue to their son-in-law once the daughter marries (iii) daughters are needed to help mind the younger children while the parents work. As one female student stressed about her parent's expectations of her:

ST(SVS/C)My father wants me to get a job after leaving school. He said, 'you have to work and support your youngest brother and sisters before you get married'. My parents do not really care what kind of job I wanted to do as long as it was not far from them. This is my challenge and I will be happy if I can get a job at any local industry as a clerk.

Although female representation in the vocational education system in Malaysia has improved tremendously over time to reflect better access of females of recent generations to higher and intermediate education, gender stereotyping in the education system persists. From school to vocational training courses, the system encourages the specialisation of females and males in subjects determined as feminine and masculine, contributing to separation along gender lines (Shamsulbahriah, 1988). However, the extent of stereotyping is associated with social class, individuals from high social class backgrounds having less stereotyped views (Cook, 1993).

8.4 Job-Related Factors

One important consideration in this respect is students' own attitudes to work. Attitudes to work divided on the one hand into those who believe that such attitudes to work are the result of organisational and technical factors in the workplace, or the result of socialisation into the workforce; and on the other hand, into those who believe that attitudes exist independently of the work situation and affect choice and action.

Table 8.2: Percentage Distribution of Job-related Factors in Influencing Occupational Expectations of Form V Vocational Stream Students

Job-Related Factors	Degree of Importance						Mean
	Very Important		Important		Not Important		
	N	%	N	%	N	%	
Security	361	87.2	52	12.6	1	0.2	1.130
Significant to national future	188	45.7	183	44.5	40	9.7	1.640
Promotion	150	36.4	199	48.3	63	15.3	1.789
Starting salary	146	35.4	220	53.4	46	11.2	1.757
Location	79	19.2	257	62.5	75	18.2	1.990

1 = very important 2 = important 3 = not important

The students were required to state the importance of each job-related factor in influencing their choice of occupations. Table 8.2 shows that most vocational stream students regarded job security as a very important factor in influencing their occupational expectations. The data from the survey indicate a total of 420 vocational stream

students who responded to the item, 87.2 percent placed job security as very important. Only one student regarded this factor not important in influencing his selection of expected occupations.

62.5 percent, 53.4 percent, 48.3 percent, and 44.5 percent of the students placed the location of the organisation or the firm, the starting salary, the chances of promotion that a particular job offers and the significance of the particular job to the national future, respectively as unimportant job-related factors. 18.2 percent regarded job location as not an important factor, 19.2 percent considered job location to be a very important factor in influencing their choices of expected occupations.

From the mean scores, suggestions can be made regarding the influence of these job-related factors on students' choices of expected occupations. It is interesting that the mean score of job security, which is 1.1, is lower than the other scores. It is possible that in times of increased automation, where production jobs are scarce, to be secure in the job one is holding is more important. Surprisingly job promotion, starting salary and job location were not considered equally important. Most of the students felt the location of a job was of no importance, indicating a willingness to work anywhere in Malaysia. Also, these students might not get enough information to be selective in their search for their future job.

One of the interview questions asked of the vocational stream students was, 'what was important to them about a job?' Most of the students gave responses which fell into one or the other of the three main categories; intrinsic, extrinsic or concomitant (Ginzberg et al., 1951). Three principal orientations to work are involved here:

intrinsic, in which a high value is placed on an aspect of work such as using one's mind, creativity, helping others, or a feeling of accomplishment from the work; extrinsic, in which a high value is placed on economic returns, security, prestige, or the life-style that goes with the job; concomitant, in which a high value is placed on the surroundings in which the job is done, on relationship with work-mates, on relationship with one's supervisor, or on having variety. A few of the students gave responses which were intrinsic only:

ST(SVS/A)I think what matters most in a job is to achieve job satisfaction by having a work that is genuinely related to my course for example as a beauticians. I don't want to have a job that is not related to the course that I'm doing now. Again, I hope my job will provide a comfortable living (*Female Student*).

ST(SVS/C)I hope my job will satisfy me, and give me the challenge that I'm looking for (technician at PROTON), and help me develop my technical experience (*Female Student*).

Some of the vocational stream students gave extrinsic factors alone as the most important aspect of an occupational choice:

ST(SVS/A)I think the most important thing about job is it's security and higher wage because the cost of living now is very high especially in the big city like Johor Bahru or Shah Alam (*Male Student*).

ST(SVS/C)The main factor to consider about a job is money. That's why I prefer to join the firm. You can't get a good salary if you are working in the government sector and also the skilled jobs opportunities are not many compared to the private sectors (*Male Student*).

Only very few interviewed students gave concomitant responses. The following give an indication of the concomitant responses:

ST(SVS/A)Eventhough I'm taking an electronic course but I still want to get a job in a good working condition and surrounded by friendly people (*Female Student*).

However, the data from the research indicates that most of the male and female vocational stream students gave mixed responses: either intrinsic with concomitant or extrinsic orientations, or all three together. They wanted to work at the private sectors with a reasonable income, interesting work and social contact:

ST(SVS/A)Private sector or industry. There's no vacancy in the government offices. There are many factories and they pay 3 times higher than the government. My brother told me that if I want to get experience, I must work in the private sector. I want it to be suitable with the work that I've done. If the workplace is far from my hometown and with a small salary, how can I survive because I still have to pay the rent and spend a little for my parents. If possible, I'll try to get a job here in Muar or the most near is Melaka. I hope my job will be interesting and enjoyable and the people are friendly (*Female Student*).

ST(SVS/B): Nowadays, the government encourages more people to work with the private sectors. Therefore, I will work with the private sectors. It is more challenging besides getting a better salary it provides every opportunity for promotion compared to working with the government. Working as a government servant is well known to be a bit lazy but in the private firm you have to work hard because time is very much cherished besides working efficiently. While working with the government, people say that 'even if you work so hard, you'll get the same salary and if you're lazy too, by the end of the year your salary will be incremented. To me as a technical person this is not a good attitude if you want to be successful in your future career. Of course, if you don't show your good performance when working with the private sector it means that you are out of the job (*Male Student*).

The data from the research indicates that most of the vocational stream students in secondary vocational schools preferred the private sector to working in the public sector. This finding supports the government's privatisation policy to increase the role of the private sector in employment generation (FMM, 1990). Students made this

choice because they believed the private sector would offer a more challenging and competitive job, better prospects for career advancement and better remuneration. However, some vocational stream students preferred working in the public sector, mainly because of higher job security and to gain experience before switching to a private sector job.

For the non-Bumiputera students, freedom to mix with their friends was a very important aspect of their lives but this was restricted by the cultural norms for the Bumiputera students. Both school and work were seen by their parents as legitimate areas for social contacts, within limits, and most female students' responses to both these institutional situations were to utilise the space they offered. Their preparation for the labour market involved a complex interplay between their familial and cultural role, and their educational experiences. In addition to this were factors such as the structure of the labour market and youth unemployment, as perceived by parents, students and teachers.

8.5 Course Specialisation and Occupational Expectations Matching

It is normally expected that students who opt for vocational preparation after common basic education will be those who are not academically oriented, who will mainly join work later as skilled workers. The link with higher education is not expected to be a strong one, but provisions should be available, through further education facilities, to be utilised by those students who pass with a good result in MCE(V) examination.

As for students in the vocational stream, the most popular courses were Engineering Trade and Commercial and Business Studies. Several factors influenced the students' choice of a particular course of study in the vocational schools. Interest was the main factor influencing their choice although other reasons such as opportunity for a good job, expectation of better income and opportunity to work in the private sector were also cited.

The vocational stream students' commitment and enthusiasm for the courses seems to be tied up with how much the course motivates the students and how relevant they feel that the work is. This was all connected with the reasons for these students choosing vocational courses. If the course chosen was the first choice and it had been chosen for positive reasons they were more likely to enjoy it and be more motivated than a course which was possibly a second or third choice and chosen for negative reasons. This happens when certain courses were over-subscribed, many applicants were usually offered some alternative course. This has led to some cases of students dropping out of the programmes when they realised that was not what they wanted to do. Two female students in Building Construction and Machine Shop Practice class said:

ST(SVS/A)I'm taking Building Construction course here. Anyway, it is not my first choice. Actually I prefer to do electronics but my maths was not very good.I'm not enthusiastic at all about this course because I think it is not really suitable for females. I just learn and study hard for the sake of passing the exam and I hope, I will be able to continue my studies to the polytechnic in Architecture.

ST(SVS/C) Actually my ambition is to be a medical doctor but when my mathematics result in the LSA (Lower Secondary Assessment) examination was not good, I tried to change my interest to the technical fields. At first, I tried to apply for an electronic course but the Ministry of Education offered this course (Machine Shop Practice) to

me. I had to accept it because there was no choice at that time. I don't know much about this course while I was in the academic school because there's no disclosure by the teachers. However, I think I'm not making a mistake by following this course even though some times it is really boring.

Those students really disliked their course showing little enthusiasm for the study. The ones that did stick to it remained for the qualification in order to gain access to another course mainly the Polytechnic Diploma. The data from the research above indicates it would appear that most of the female students taking Building Construction, Machine Shop Practice and Welding and Fabrication are instrumentally involved in their vocational courses. It is a means to an end, not a gratifying end in itself. They actually accept the necessity of doing the course in order to obtain a good occupation or access to another course. One action commonly taken by the schools was to provide counselling at entry and during the course. One careers guidance teacher makes a comment:

CGAC(SVS/A)They just sort of follow the crowd..., they see their friends applying for vocational, they also start applying. Some of them were actually sent to the school not on their own accord. They were sent there by their parents just because the parents can't control them anymore. This one is being abused by parent. We have cases... every year about between twenty to thirty cases.

The abuse here may literally refer to the parent taking advantage of the hostel facilities at secondary vocational school to keep the children temporarily away from home during term time.

Brown (1987) found that students were oriented to school for various reasons. He found that there were 3 types of orientation: normative, alienated and instrumental. Normative orientation he said was held by academic students who see the value of education and accept it for

its own sake. Alienated orientation was held by non-exam students who are neither oriented to the school as an intrinsically valuable learning experience, nor as a means to his or her individual ends. Instrumental orientation was held by students who see school in terms of its ability to facilitate desired individual ends, most notably by qualifying them for entry into certain types of employment. Interestingly, vocational stream students conform here to gain qualifications. Most of the vocational stream students interviewed fell into the categories of instrumental orientation. What is learned at secondary vocational school, even if it does not directly relate to the occupational or other interests of the students, is viewed as a necessary preliminary to the acquisition of 'required' and 'desired knowledge'. The subjects in which these students have little interest are tolerated as necessary in order to gain additional qualifications if access to particular occupations and institutions of higher education is to be gained.

Avis (1984:147) writing on pre-vocational students in Further Education said:

The voluntarism of Further Education gives the illusion of choice. This choice is narrowly defined, being shaped by the negative compulsion of boredom, of parental pressure, of the avoidance of the dole and of the necessity of having to pass the course in order to be able to enter the course of first choice.

However, some of the vocational stream students are far more likely to have accepted places on courses other than the ones they first wanted but they are twice as likely as others to have picked their course mainly because they are interested in the subject taught. Most of the vocational stream students tended to see all practical work undertaken as relevant in some way. The practical together with work experience reflected a real linkage between student expectations and

occupation. The value of practical work is stressed against the 'uselessness' of the theoretical and academic. Practical classes held out the promise of future occupation.

Hammersley (in Woods, 1980: 31) stated that:

We can expect that much conformity to school demands is motivated as much by instrumental concerns for example to get good exam results and thus a 'good' job, as attachment to school values for their own sake. In other words, conformity may be a calculated strategy rather than simply the product of successful socialisation into school values and norms.

This statement relates to many vocational stream students in secondary vocational schools. The majority of the Engineering Trade (Building Construction, Machine Shop Practice and Welding and Fabrication) female students interviewed tended to tolerate their courses for the qualification they would gain at the end of it without expressing much enjoyment for the subject studied. However, the Commercial and Business Studies, Home Science, and Engineering Trade (Electronics, Electrical, Automotive and Air-conditioning and Refrigeration) male and female students, whilst obviously wanting to gain the qualification to allow access to higher education, also tended to enjoy their course for the subject content.

The data from the study indicates that some Engineering Trade, and Commercial and Business Studies students need the vocational qualifications for which they were currently studying in order to progress to a further course of study:

ST(SVS/B) I have quite a high ambition that is to further my studies in the Business Management field up to the university level and to become an accountant (*Female Student*).

ST(SMV/C) I think an Automotive course is a very good course. It really teaches you a lot about theory as well as the practical aspect. Again, it teaches me to set targets for myself - make me realise what I can do after leaving school. I set my own targets and take responsibility for my work. It means that if I work hard I'll pass the exam and if I fail it's my own fault. I think the course teacher tries to give me the knowledge that he has to make sure that all his students will pass the MCE(V) examination. My target now is to further my course at Ungku Omar Polytechnic in Marine Engineering (*Male Student*).

However, the fact that the vocational course may help students to get the occupation they want appears to be of equal importance to Bumiputera and Non-Bumiputera students alike but it is considerably more important to male than to female students. One Non-Bumiputera male student gives the reason for doing the Refrigeration and Air-conditioning course in secondary vocational school:

ST(SVS/A) I choose Refrigeration and Air-conditioning because nowadays everything is getting sophisticated and everybody wants comfortable conditions. We can see...which building that does not use air-condition, right....., therefore I think this field of skills is good and the chances of getting a job is better.

One Bumiputera male student said:

ST(SMV/C)If my results are not too good, I will get a job that is relevant to my field.....err...at least being a technician. After having experience in working with someone, I hope to open up a small workshop or firm in this area. I think this is challenging especially to the Bumiputras. There's only a few of them involved in this area that is servicing air-condition and refrigerators.

This suggest that, despite being at some considerable disadvantage in 'white collar' occupation, vocational stream students are doing their course particularly to get an education irrespective of the job opportunities it might lead to, and what they study matters a great deal to them in itself.

The importance of vocational education can be seen in the emphasis which students place on it as a factor affecting their occupational expectations. Occupational choice and course choice within schools are strongly linked. Options chosen between the ages of 13 to 17 may have strong implications for the decision to follow a particular career path (Trice, 1991). Data obtained from the study seems to indicate that the students perceived their success in vocational education to be crucial to their expectation of careers. As the students indicated, their choice of a career would be very much dependent on success in their vocational education:

ST(SVS/B) I think, the industries in Malaysia now demand more of skilled engineers and technicians....for sure many skilled jobs are available. This is one great chance that I should grasp. However, I must be really good in academics as well as in the engineering subjects. If not, I think it's quite difficult to be employed in the established industries and the MCE(V) result was also being used as a guide for the starting salary by the employer (*Male Student*).

ST(SVS/C) Err.....Maybe, because if I apply for a job in the area of Refrigeration and Air-conditioning which is the course that I am doing now, for sure the employer will want to know the MCE(V) grade and those specific skills that I have. Therefore with a good result in examination and the skills (theory and practical) , it will help us to get a job fairly easy (*Male Student*).

Looking at it in another way, a few vocational stream students indicated that their occupational expectations would not depend on their success in vocational education:

ST(SVS/A) I think there is a serious shortage of skilled workers in our country now but I'm not very sure in which specific area. Err.... Now, the expansion of the hotel industries in our country will demand more catering and lodging services workers as well. Therefore, those who complete the vocational education have good job opportunities. I think, even if I am not successful in my MCE(V), I will still be employed, because I have the specific vocational skills (*Female Student*).

The data indicates that some of the vocational stream students who wished they had done vocational education at secondary vocational school were more inclined to think that this would help them with an actual job, rather than with securing entry into a job. The importance of vocational subject specialisation, therefore, must be that it does not appear to have been a very significant factor determining the entry of school leavers into the jobs to which they are related, but it may be that qualifications in vocational education will be increasingly used by employers as they attempt to select new employees from an increasing flow of applicants.

A system of vocational education which attempts to prepare students for work in industry and commerce, that is to meet manpower needs, is intrinsically narrowing. To be concerned in schools with vocational aspects, preparing students for a working life, need not be narrowing, for it does not necessarily mean that they have to be trained (rather than educated) for one particular trade. According to Devlin and Warnock (1977) it is not necessary to learn the details of a particular job beforehand in order to be a well-prepared candidate for that job. In order to be well-prepared, is it necessary to know exactly what one is preparing for. As pointed out by the interviews with the careers guidance teachers, a worker who does not have the additional skills to advance to better positions in his or her field may become trapped in a particular occupation. Also, from the student comments in the interviews, an over-concentration in some vocational programmes on narrow occupation-specific skills, will restrict occupational opportunities for some vocational stream leavers:

ST(SMV/A)I know that by having the vocational certificate in Machine Shop Practice will inhibit me getting a good job because these kind of skills are not much needed by the industry. I have to learn about CAD/CAM at the post-vocational institutions after leaving vocational school. This knowledge will give an advantage to me find a job (*Female Student*).

If, then, specific training for an occupation is not to be encouraged in vocational school, what can secondary vocational schools do to provide help to students in the transitional stage from school into work? There is abundant evidence that schools can provide 'realistic and relevant' programmes of careers guidance to make transition as easy and as meaningful as possible.

8.6 Conclusion

What factors influenced student job expectations? At age seventeen the major influence on students' aspirations and expectations concerning occupational expectations was their fathers. Home background factors provide an important context for occupational choice decisions (in terms of socio-economic status, and parental educational level).

The data indicates that there was a significant negative relationship between students' occupational expectations and fathers' present occupations. Caplow (1954), a prominent figure in sociological theory, views the occupations of the fathers as determining that of the sons. This finding is contrary to the findings of other studies done by Form and Miller (1949), and Blau and Duncan (1967). Again, this finding is not similar with Geo-jaja's finding in Nigeria (Geo-jaja, 1987) which indicates desired and expected occupational aspirations of secondary school students were not related.

Contrary to what Afshar, (1989) finds, the study points to the Bumiputeras' students' (Muslim) phenomenal aspiration to upward social mobility through the route of education and careers. However, occupational expectations are contingent on religious and cultural

values too, into which females have been socialised from an early age. Thus while the chosen job has to be of a high socio-economic status, it should be respectable and not involve them in unIslamic activities. This indicates Bumiputeras' desire to better themselves, but not at the detriment of their religious identity.

Vocational stream students were generally confident about securing a job soon after having finished the course. The clear vocational link of their courses is thought to facilitate the identification of a specific occupation. The data from the research indicates that most of the students who planned to work in the private sector are consistent with the policy encouraging employment creation in the private sector. Students regarded their vocational education as an important element contributing to their employment prospects. This is highlighted in their high expectation of good results in MCE(V) and high levels of confidence in getting a job soon after. Students admitted the importance of academic and vocational excellence, as well as other non-cognitive abilities in getting jobs. Better interaction between schools and employers is thought to improve the provision of quality vocational courses and quality careers and labour market information for students' benefit.

The data from the research indicates that throughout the period of their lives, vocational stream students displayed different value clusters associated with occupational expectations. Male vocational stream students were more likely to exhibit extrinsic reasons for job expectations (rewards, status) than were vocational stream female students who showed a marked preference for people-oriented aspects of occupational expectations (helping to others, meeting interesting people).

Overall, the data from the research suggested some interesting patterns of stability associated with course specialisation and gender. Not unexpectedly, the electronics and electrical students exhibited higher levels of occupational expectations looking to a future in professional occupations rather than in unskilled and white-collar jobs. Male students in all courses generally exhibited higher levels of occupational expectations than female students.

The data from the research does support Caplow's view that the principal device for limitation of occupational expectations was the education system. Education channels the students to certain vocational course specialisation and limits their scope of job selection. The study finds that there was a significant relationship between vocational stream students' occupational expectations and course specialisation. Vocational course specialisation was a significant determinant in selecting expected occupations of vocational student. In the next chapter, the role of careers guidance programme in helping student to make their occupational choices will be discussed.

CHAPTER NINE

THE ROLES OF CAREERS GUIDANCE PROGRAMMES IN HELPING STUDENTS TO MAKE THEIR OCCUPATIONAL CHOICE

9.1 Introduction

Careers guidance is concerned with complex and controversial matters. It operates at the interface between individual choices and societal choices, individual needs and societal needs. From the individuals' point-of-view, paid employment - which traditionally has been the central preoccupation of careers guidance - is a powerful determinant not only of income but also of social status and family life, as well as determining how a major part of one's working hours will be spent. From society's point-of-view, the effectiveness with which manpower is deployed is an important determinant of economic health. Choosing an occupation can indeed be seen as a key contractual transaction between the individual and society, through which individuals offer some of their time and energies to pursue societal purposes, in return for money and other rewards which will sustain their private lives. Those involved in careers guidance are offering to intervene in this process.guidance is an attempt to mediate between individual aspirations, talents and values on the one hand, and social structures, demands and opportunities on the other. In doing so it is forced to confront issues about what it should do when individual needs and societal needs conflict with one another (Watts, Law and Fawcett, 1981: 380-381)

The economic ideology, which demands that careers guidance and counselling (CGAC) should exist to serve the needs of the employment structure, was one contributor to the ideological consensus of the late 1960s and early 1970s . According to its advocates, the process of careers guidance should be concerned with promoting levels of knowledge and developing personal qualities within students in order

that the manpower requirements of industry and commerce might optimally be met.

Differences of ideological justification and conceptual models clearly have implications for the roles taken by CGAC teachers, especially at a time of high competition for work. While there is little direct evidence on the role(s) of careers guidance teachers, some implications may be drawn from Watts (1981). He, for example, observed that the ways in which careers guidance permeated through the schools he studied varied considerably, and suggested that one important factor in explaining this was the extent to which teachers were assigned to roles or were able to achieve roles through initiation and innovation.

The importance of aiding students in making a 'wise choice' was stressed in the MacFarlane Report (1980) where it was stated that provision 'must be accompanied by an effective and co-ordinated system of careers guidance'. The existence of adequate information is of primary importance to students approaching the end of their schooling. For instance, it has been suggested that frequent occupation and course changes in the first few years after leaving school are often the result of inadequate guidance during the process of choice. CGAC teachers are attempting to provide sufficient help for students so that their decision-making capacities can develop unrestricted by a lack of knowledge about occupation and course opportunities.

This chapter seeks to explore the present roles of careers guidance in the Malaysian secondary vocational schools with regard to helping students to make their occupational choice. However, there will be three topics that need to be highlighted. These are: first, the nature of

careers guidance in the three secondary vocational schools; second, vocational stream students' view on the CGAC service and finally, CGAC teachers' perceptions of careers roles.

9.2 The Nature of CGAC in the Three Secondary Vocational Schools

The central role played by the Malaysian secondary vocational schools in providing careers as part of a broader provision in counselling has become increasingly important in recent years. However, careers provision varies considerably between individual vocational schools in this country. The scope of CGAC has been defined in contrasting ways. Careers guidance is an activity which is being undertaken more and more in secondary vocational school establishments but there is much confusion about what it is and what it entails. Careers guidance teachers at secondary vocational schools are challenged to keep abreast of new ideas and approaches in the career planning and decision-making process to better advise students.

Careers guidance which provides the basic services of student inventory, information services, counselling and placement is not new in the Malaysian education system. Various efforts, formal and informal, and by the MOE and voluntary organisations have been undertaken since its inception in 1967, resulting in various forms and degrees of accomplishment and achievement. About 30 years have passed since its inception. It is perhaps appropriate to take a closer look at the services now and to ascertain to what extent they have provided the necessary assistance and guidance to the students in schools. The structure of guidance provision changed in 1974 with the establishment of the present guidance service, but the aims of the unit have remained the same. Caught up in the contradictions of a careers programme, which suggests that advice should be based on

individual choice, and placed within institutions that 'have few pretensions toward an academic education' (Tomlinson, 1987: 98) are well-meaning teachers and careers guidance teachers (Mirza, 1992:86).

The descriptions of the careers guidance programme in the secondary vocational schools in this study are based partly on information supplied by the careers guidance and counselling teachers with special responsibility for careers activities in the schools, and partly on responses from the students in the samples. This information was obtained during the period when the vocational stream students concerned were in the beginning of the final years of secondary vocational school. In this connection it is important to remember that CGAC has been going through a period of rapid growth and development, and the situation which the study describes here is not necessarily that which would be found in later years.

In many aspects the secondary vocational schools were similar in the kind of programme they operated. For this reason the study does not provide a school-by-school description, but rather a general account, drawing attention to important differences or exceptions as the study proceeded, or classifying aspects of their activities into different categories.

A preliminary point has to do with administrative arrangements and responsibility for careers guidance. Since the introduction of a general guidance system on the initiative of the Ministry of Education Malaysia in early 1967, Malaysian secondary schools generally have developed a structure of guidance, whereby guidance teachers, (who are also subject teachers) have responsibility for all aspects of

guidance - personal, curricular and vocational. In many secondary vocational schools this includes a responsibility not only for guidance or counselling of individual students, but for careers guidance as well. Careers guidance thus becomes a part of counselling and guidance in general.

In the research schools it was apparent that most of the careers programmes had developed in an ad hoc manner with little long-term planning. This is similar to that found in Harris (1992) and Sparkes and Hodkison, (1996). Although the careers guidance programme offered by secondary vocational school varies, the main general aim appears to be the same, that is, to prepare vocational students for their transition from school to the world of work. In all secondary vocational schools the careers guidance programme includes exercises aimed at improving students' career decision-making skills, self-awareness and broadening students' horizons. Unfortunately, no periods were devoted specifically to careers guidance. They claimed that further education opportunities were a firm part of the programme. The schools give less emphasis to the whole range of occupations open to students, to examining local employment and to relating courses in schools to occupations. Each of the three secondary vocational schools in the research school had a CGAC unit managed by a counselling headteacher. The unit had a careers room which contained books, brochures, and audio and video tapes about various occupations. The students were at liberty to visit the careers guidance room and pursue the material in their free time. Information from various employers and colleges was pinned on notice boards displayed at various locations in the schools, such as the careers room, and the workshop area. During the Form IV and V, a number of outside speakers such as from polytechnics and industry came to talk to the vocational stream students.

Careers guidance is an attempt to mediate between individual aspiration, talents and values on the one hand, and social structures, demands and opportunities on the other (Watts et al., 1981). Interestingly, in this study, the philosophies of careers guidance in the three schools formed a sharp contrast. The careers guidance and counselling teachers in SVS/A (Secondary Vocational School: A) and SVS/C (Secondary Vocational School: C) were proponents of Super's (1957) approach to careers guidance. They were very concerned with the psychological growth and development of their students and endeavoured to build self-awareness, self-confidence and trust among them. These schools were interested in helping their students develop their self awareness and also a feeling of social awareness through respect for each other, co-operation and interdependence. For example, the SVS/A was trying to implement these aims through a combination of careers guidance activities and practical work. The careers guidance teachers in this school thought that in this way students would actively and in practice, rather than in theory, have the opportunity to realise certain things about themselves and about the world of work.

They were determined that students should realise that the responsibility for finding a job was their's, and they were therefore reluctant to arrange job interviews or to suggest jobs to individual students. Their careers advice was always informal and frequently involved the use of unfamiliar materials and encouraged students to evaluate their attitudes and experiment with new ideas and possibilities. They talked with students but clearly left the initiative and responsibility with them. This is clearly acknowledged by one CGAC teacher who mentioned that:

CGAC(SVS/A) Typically, careers guidance we offer begins in the Form V. Err.....we do Form IV students. It is often simply to introduce the roles of the career guidance unit. With some attempt made with the Form IV group work to

raise the awareness of young people about the importance of the Form V; about the general options that are available; that would include, jobs, advance skilled training and going to continue education. Then in the Form V we begin in earnest. There are no particular models that apply universally. Careers guidance have very individual approaches depending on the kind of support they get in schools. My experience is that careers guidance teachers frequently will do occupational interest group talks, and what that means is that a large number of students are identified as being interested in a particular area. Rather than impart information on course basis the group will be gathered together and an information giving group session will be organised. In this way, last year for example, I did a series of occupational interest group talks according to the different courses, things like becoming a engineer; technician, self-employment etc. Its the information giving process that is important.

The data from the research indicates that in many students' choice settings there are competing values facing the individual. As well as the value put on success or failure, there can be the conflict between security and rewards, between family ties and individual interests, and between commuting to a wanted job and a relatively unwanted job close at hand. According to Super (1957) standardised tests have a role again of providing information which enables the individual to reach a compromise. The tests provide the individual with a chance to examine what his goals are, and examine the personal consequences of the alternatives available. It is noteworthy that whilst in theory there has been a movement away from the diagnostic-prescriptive form of guidance, increased attention has been paid, particularly by the careers guidance service in the schools, to the more widespread application of interest inventories whose results can be matched with a data bank containing occupational titles. The following quotation illustrates the ways the CGAC headteacher in SVS/C provided attitude and interest tests to his students:

CGAC(SVS/C) The type and methodology that I'm using, first, at the beginning of the school year, all Form IV students were given the enthusiastic test questionnaires. The result from this test can tell the vocational interest of the students. Second, to make sure that I have a perfect result I give them another test that is called VPI (Vocational Personal Inventory) by John Miller. This test will show how far the students' self capability, talent and personality traits that they have whether it is introvert or extrovert. After that I can identify using Rothwell-Miller Interest test or Brook Test of Interests whether the students are realistic, investigative, artistic, social or enterprising. From what I can see many of the Malay students are in the category of Social and Arts. Therefore I try to find out their relevant occupation based on DOT (Directive of Occupation Title). As an example there's one student after the enthusiastic test was in the Arts category whereas he was now in the building construction course. In this case it seems that there's no relation between enthusiasm and the course that he is taking now. But we look at the Holland's theory, we try to give an appropriate careers information based on the DOT then after completing the course he still can achieve his enthusiasm in arts for example in interior design, landscaping or architecture. With this explanation and information that we gave to the students, they can select their own appropriate occupation based on the DOT that we give. This will be the students future objective and will motivate them. Second example, that a few students from Machine shop and Welding course having problems because they have different enthusiasm that is design.....and they don't really like the practical work in the course that they are taking now. I try to solve their problem so that they can go on with their studies and not feel frustrated to fulfil their ambition. Using the same procedure the occupation that they can choose, for example CAD/CAM which needs a lot of designing skill in the manufacturing technology. When the students realise that there's a relationship between their enthusiasm and the course that they have taken.....they can picture their future occupation. Their vision now is to continue successfully in their studies to fulfil their ambition. This is part of what I have done in my careers guidance activities. Unfortunately, I can't do it to all students. I separate the students who have critical personal problems, I don't give them the enthusiasm test because they have to build up their personality first. Therefore, those who have careers guidance counselling earlier from me are the ones who have high conceptual personality.

Usually these students will come and see me and the first step taken is to sit the enthusiastic test. Further on we can find an appropriate occupation for them based on the DOT.

The data above indicates that the incorporation of Holland's theory into the DOT has made the interest inventory a valuable tool for occupational decision making by vocational stream students. The DOT identifies the Holland personality type of the individual taking the interest inventory and provides information on work environments that reward individuals with those particular personality types. After answering a series of questions, students will be told the kinds of occupations for which they seem best fitted academically, attitudinally and based on their personality type and preferences. Nevertheless, the standardised tests of abilities and interests can be very useful if the information is presented in terms of probabilities of success. The vocational stream students then have to consider the consequences for them when they recognise that, for a single individual, success is often a matter of yes or no. The SVS/C's CGAC headteacher stressed standardised tests can also provide careers guidance and counselling teachers with information about possibilities they have not considered.

At SVS/B (Secondary Vocational School B), the CGAC teacher had a more traditional approach to his job. He was familiar with the local job market and went to great efforts to place students in jobs for which he looked to the local opportunity structure, and he was less concerned with the expressed wishes of students if he thought that they were unrealistic. Careers guidance lessons were more formal than the two SVS careers guidance lessons. He tended to concentrate on methods of jobs applications and jobs inventory, collecting information and so on.

He related to the students in a paternalistic way, whereas the SVS/A and SVS/C's CGAC teachers tended to be more informal and friendly with students. He gave more emphasis to information. By that he meant trying to help students understand that they should start actively collecting information from various sources and critically reading it. His approach to careers guidance then began with the importance of information as an aim and he had asked the PGA (Peer Group Adviser) students to start a small project on occupational or educational themes that interested them. They had to start a file on this theme, explore it by collecting relevant material from the mass media - mainly newspapers - which they then had to analyse, followed finally by discussion in the CGAC's room. Through this discussion students had initial opportunities - with the careers guidance teachers - to realise the interconnection of such themes and issues as education and occupation. Certainly, there appears a clear need for the PGA involved with students to work closely together. He had not included any activities on self awareness in his initial planning for two reasons:

CGAC(SVS/B Yes....I was very concerned with the students' developing skills for active collection and critical reading of careers information. The useful materials collected by the PGA students can be used for other students reference. Again, I think all the careers guidance and counselling teachers in this school felt uncomfortable about implementing any activities on self awareness since our knowledge in this area is limited.....We are not a qualified counsellor.....

In the case of SVS/A and SVS/C, self-awareness and choice were stressed, whereas SVS/B students were advised on some of the technicalities of working life and were placed, wherever possible, in available jobs. As well as offering advice at this stage, when vocational stream students may be so entangled in the examinations that a long-term view is difficult, careers guidance and counselling teachers remain available after students receive their MCE(V) examination

results. Employers with vacancies for vocational school-leavers, may use the CGAC service unit as an employment agency. They pass on the information to the CGAC service unit, who in turn select and send candidates for interview.

In most of the SVSs in the study, careers guidance proper did not begin until the Form V, although career aspirations were raised by teachers when counselling Form IV students about occupational choices. The amount of information students had about careers before making their choices was in most cases very limited. However, all the CGAC teachers of the three schools had established good relations with their students because most of them seemed to feel comfortable in openly expressing themselves on issues concerning personal matters. The study felt that careers information could be explored in greater depth and that more could be achieved if all the CGAC teachers collaborated.

9.3 Vocational Stream Students' Views on the CGAC Service

Any evaluation of school CGAC service must obviously incorporate an assessment of the nature of problems which different student groups present to careers guidance teachers. As stated in Chapter Three, the growth in youth unemployment and the changing face industry have resulted in a more extensive range of vocational stream students (and hence of guidance needs) than was the case when schools provided mainly for day-release students. Not unexpectedly, some problems presented to careers guidance and counselling teachers are common to all students (such as academic difficulties and worries regarding future or present employment prospects), whilst others are not, for example, lack of occupational choice.

Many vocational stream students interviewed felt that CGAC teachers are insufficiently informed and not in touch with the labour market. The quotations below show the students' perceptions of CGAC teachers in giving careers advice in their schools:

ST(SVS/A) If we take into account the careers advice and guidance from the school, the course teacher and the careers guidance teacher, to me it's not sufficient. There's many things that the school could do to help students with their future career. Moreover this vocational school has many kinds of courses. Of course the jobs are different for each course. Students are not given enough information on how to get a job. The one that always been mentioned is on how to be successful in our studies and self disciplined. I took my own initiative to attend careers courses outside the school time that was being held by the youth club and the open day of the University of Science Malaysia. Sometimes these courses can motivate us on effective learning and also on our future careers choice. Err.....the school should give more careers talks or seminars to the students especially by the speakers from the private sectors, government or universities. Not only by the advice given once a week through the schools assembly. Special talks on a certain course is important. Therefore students from that course can be asked in detail about their careers. If during the assembly, the teacher can only talk about it in general, the students are not so interested. Job opportunities at any companies should be posted on the notice board and must be up to date. One more thing is that the careers guidance teacher can separate the notice on job opportunities according to the courses and paste it in the related workshop. The number of counselling and careers guidance teachers should be added and not from the academic teachers if possible, because they don't really know the careers found in vocational area (*Male Student*).

ST(SVS/C) Emm..... I really don't know their role as a careers guidance teacher. The one who always sees them has personal problems. Maybe the full role of the unit is not being exposed to the students (*Female Student*).

Based on the statements above, it is possible to argue that the emphasis on careers information and guidance remains inadequate in

secondary vocational schools in this study and it is likely to remain so until the crucial importance of effective provision in this field is more widely recognised. In some instances it appears that this process will take some considerable time. Consequently there would seem to be a case for the TAVED, Ministry of Education to take a more positive lead than it has done in the past and - for example - lay down guidelines.

The data from the research indicates that most problems of vocational stream students were about occupational choice. They were seeking clarification on the area chosen and how to attain their career goals from the careers guidance teacher. As noted in the first section of this chapter, if CGAC teachers failed to reinforce a student's choice of occupation, particular problems arose in maintaining the student's confidence, encouraging them to think of alternative first choices and to make back-up plans. The CGAC teachers interviewed felt that students frequently approached them with unrealistic occupational expectations. They admitted, these problems (particularly with Form IV vocational stream students) often called for a series of counselling interviews and the use of more directive methods than they would have otherwise wished to employ.

Data from the research indicates that only a small number of vocational stream students mentioned any aspect of the formal or informal careers programmes of their schools as a source of their intentions. If I include in this category all those who made any kind of reference to careers information the number of students concerned was very little in all the samples. It is interesting that more than half of the participants referred to careers seminars and careers libraries (in the CGAC room):

ST(SVS/A) I thought (being a computing machines operators such as CNC) would be interesting - I was

reading about it in the careers guidance room (*Male Student*).

ST(SVS/A) My parents talked about hotel and catering, and the careers seminar provided the information (*Female Student*).

ST(SVS/C) I'd like to be an mechanical engineer, and I read about it in the careers guidance room (*Male Student*).

Others referred to speakers who had visited the school, to films they had been shown, or visits to local firms. As for direct or personal contact between teachers and individual students on the question of jobs or occupations, the data indicates that only a minority of vocational stream students in the different secondary vocational schools, recalled having had talks of this kind. Of these, approximately half felt these talks were helpful, and the rest were doubtful or said they not helped. This study supports the view that the school talk fulfils several important functions: it widens the job horizons of vocational students through giving them some idea as to the range and types of jobs available to them, through supplying information about individual jobs it enables a choice to be made between several alternatives, it discourages fanciful or inappropriate choices, and it focuses attention upon the problems of getting a job.

The vocational stream students were asked whether any of a number of possible sources of influence including newspaper and magazines, things said by CGAC teachers, course teachers, parents, brothers and sisters, friends and those who are already in the field, had helped them to decide about jobs. Among these various possibilities 'things said by careers guidance teachers' was the greatest influence on the female vocational stream students. Interestingly, the female students said they had developed their ideas as a result of information or

advice given by CGAC teachers. This is clearly admitted by this student during an interview:

ST(SVS/C) At first, I'm not really clear about the careers opportunities related to this course but after having some information from the careers teacher I already know what kind of occupation to look for after leaving the school. The careers teacher told me which local industries that always need more workers in business management. The local industries' information that I had will help me to find a job locally because I like to be with my family all the time. Furthermore, the careers guidance teacher said that if I want to get a better job opportunity, I must be able to do an accountancy. Therefore, I think I am going to take accountancy course in Polytechnic in order to grab that opportunity *(Female Student)*.

Other vocational stream students referred to things said by course teachers individually or in the course of lessons:

ST(SVS/A) We were talking careers in Hotel and Catering, and the course teacher asked if I wouldn't like to study Foods Technology in Polytechnic or MARA Institute of Technology after leaving school *(Male Student)*.

ST(SVS/B) It originated in the Refrigeration and Air-conditioning theory while the course teacher talked about skills jobs in Refrigeration and Air-conditioning *(Male Student)*.

ST(SVS/B) In my opinion, the course teachers and careers guidance teachers should be more concerned in giving information about the careers opportunities in the local area to the final year students. Most of the course teachers in this school have personal contact with the local industries.....so, I think this is a good chance for the course teachers to recommend his or her students who are interested to get a job there after leaving school. I was told by my course teacher that there's some local industries that will offer skilled jobs with a starting salary of RM800.00 to vocational schools' leaver. This really makes me feel confident in having a vocational certificate I will be employed with quite a good salary. The vocational students in this school are not getting enough careers guidance. The school, especially the

CGAC unit seems to have no special careers programme. We, the Form V students actually need more careers activities such as careers talks from outsiders or attending careers seminars that are being held by the private sectors or other institutions (*Male Student*).

The data indicates that the contacts between students and course teachers probably served some useful purposes, such as making information available, preparing for working life or providing a means whereby students could test out and if need be change their ideas; but they were not a major source of ideas influencing the students' developing choice.

Just how careers guidance programmes could influence students can be seen a little more clearly if we look at the comments of those students who said that their thinking had been affected by some part of the programmes. They had developed new ideas as a result of some aspect of career work. Visits to firms and films shown in school figured prominently amongst the responses:

ST(SVS/A) Before I went there I thought of being a machine operator. Now I would prefer to be a technician, because I know what a machine operator does (*Male Student*).

ST(SVS/A) When I saw the film on CAD-CAM used in manufacturing industry I thought of joining - it looked quite good and challenging (*Female Student*).

ST(SVS/B) The visit to the electronic industry (Semiconductor) was interesting. It made me think I'd like to work there (*Female Student*).

Some of the vocational stream participants indicated that careers programmes had helped students in different ways, by giving them

information on what it is like or about qualifications, or by confirming their existing ideas:

ST(SVS/A) Studying the pamphlets gives you an idea of what you can do with course you followed (*Male Student*).

ST(SVS/A) I really decided before I went (on industry visit) but it made me more sure about hotel lodging services (*Female Student*).

ST(SVS/B) The films about manufacturing work shown by the local industry made me realise what it's like to work (*Male Student*).

But perhaps the most interesting point is that the effect of parts of the careers programme on a certain group of vocational stream students was to put them off their original choices, or to make them aware of difficulties:

ST(SVS/A) I used to want to be a motor mechanic but I found out from the industrial visit that the job needs a long working hours with a low pay, so I changed my mind....could be something else (*Male Student*).

ST(SVS/B) After the films showed and talk on building construction work I knew I didn't want to join it (*Female Student*).

ST(SVS/C) We went to see a site supervisor (Building Services) during the industry visit, and I was put off that as a career (*Female Student*).

ST(SVS/C) I was going to be an Architect but I saw some pamphlets and changed my mind - it's too much time to get there! (*Male Student*).

A large number of vocational stream students just asked for careers guidance without any elaboration whatsoever upon this request. Many students wanted guidance in making an occupational choice.

They were concerned about their present state of progress in this regard:

ST(SVS/A) First and foremost, I am very confused.... still very confused about my job choice in the area of Home Science. Of something that is so important, I hardly know anything about the subject. Most of my classmate just takes it for granted (*Female Student*).

In what appeared to be exasperation, another student asked:

ST(SVS/A) Aren't careers guidance teachers meant to help you with your job choice and give you some ideas about what you can do after vocational school? (*Female Student*).

Even those who had taken it upon themselves to make a decision were worrying 'are we making the right choice?'. This 'right' choice was described variously as a career that was 'suitable' for them, one that they 'want', that they 'can do' and were 'good' at, one that fulfilled their needs and that they liked, and one for which there was a demand.

It is interesting to note the different ways in which the vocational students asked for help in choosing their occupations. Some students in SVS/A and SVS/C seemed to accept that the task was primarily their responsibility and wanted to learn 'how to go about deciding what to do' in terms of 'what do I need to do?'. In a slight variation on this, some students wanted to learn 'how to know which line in life you want to take'.

Other students saw the process in a more openly collaborative way 'teachers should also help us in choosing our careers'. Careers guidance teachers could give students ideas and more information and background on choosing and on various choices. The students asked 'to be guided as to what I want to do one day': this could be in

the form of suggestions, advice and making arrangements to 'have that student talk to somebody in that type of career'. The following vocational stream student's response describes well the idea that while many students realised that only they could make the choice, the CGAC teacher could help them through appropriate guidance and by making suitable arrangements:

ST(SVS/B) I think the main task of careers guidance teacher is to help students make a clear direction about jobs. When you leave vocational school you know exactly what you want to be and don't make a wrong decision. What am I good at? Will I fit into such a career and enjoy it? Is there a demand for the career in Malaysia? Who do I write to for information and bursaries?. Visits to firms, visit to polytechnics, universities and other training institutions, will help answer these questions (*Male Student*).

Other male students put it this way:

ST(SVS/C) I want us to be taught about what one wants to be in future and in guidance there should be a person who should explain to us about what we want to be.

Here it is implied that the students themselves choose the careers in which they are interested and the teachers are being asked to give them more information on these directions. It bears repeating that the students felt strongly that they needed to begin making choices fairly early. One explained it this way:

ST(SVS/C)To me the best times to be told more about are jobs opportunities and how to start getting into my career while I'm still at secondary vocational school because if I only learn more about it once I have left, it's too late. Maybe I have an incorrect choice (*Male Student*).

Another vocational stream student in the sample school saw the possibility of never even making a choice:

ST(SVS/A) It is very difficult in life nowadays because sometimes you find yourself not sure what you want to

be. Another thing is to decide in what sectors you want to work even though you already have basic vocational skills. These things therefore, should be closely looked at in school (*Male Student*).

There were, however, many vocational stream students who asked CGAC teachers for varying degrees of detail about occupations. The first to be looked at are those who wished to find out more about different or interesting occupation possibilities. By 'different', many were referring to variety. However, others meant 'unusual or unknown occupation, i.e. something other than the usual engineer and technician, production workers', 'careers not normally covered, things out of the ordinary, e.g. self-employment'. In perhaps the same vein, some students said that they wanted 'to learn more about interesting occupations'. As one Home Science student put it, 'I would like my future job to be fun and I want to look forward to doing my future job'.

There were also students who requested CGAC teachers to 'please get into much more depth.' A good example of the kind of detail that students wanted from the CGAC teacher can be seen in the following quotation:

ST(SVS/C) Guidance teachers should tell us about career opportunities in Malaysia or in the world. As the word tells us Guide, it is meant to guide us, e.g. What further course you should choose which will lead you to your career? What grade in MCE(V) examination you should get? What will that career help you in your future. What are the advantages, disadvantages of the career you've chosen? Will the career make you as a good Muslim? If you choose the career, how should you be, e.g. feel sympathetic, or any other feelings or should you have engineering skills? (*Female Student*).

Here the vocational stream students also wanted a more detailed look at 'occupations and what they entail, but only the ones they are interested in'. As one student clearly explained:

ST(SVS/B) Go into depth on those specific careers that an individual is best suited for and not waffle around with careers that nobody is interested in (*Male Student*).

So CGAC should be more intense and cater for everybody's needs. How might this be done? One of the students suggested the following procedure:

ST(SVS/B) It would also be OK to get everyone in the class to think of a career related to their course that they are interested in and we can discuss it with the careers guidance teacher in class. From this discussion the students can make a decision of what they want to be. For those who have already decided, they can learn more about it and decide if it is what they really want to do (*Female Student*).

These quotations illustrate the fact that formal and informal careers guidance activity did influence a few vocational stream students. It is clear from the responses, however, that the numbers concerned were small; that the self-service opportunities of careers libraries and careers talks were more frequently mentioned than other aspects of careers activities; and that careers guidance teachers were mentioned only by a very few. In particular it is worth noting that a small number of vocational stream students in this study referred to careers guidance lessons as the source of occupational expectations. This coincides with Inger's (1995) perspective that the major responsibility for finding jobs for vocational and technical graduates falls on students themselves, with help from their course teachers rather than from the careers guidance teachers. Further, CGAC services have been more successful at helping students who want to move on to further education than those who want to move into the labour market. The Aziz (1987) finding, for example, strongly argued that the

proportion of those who liked their sixth form education very much tended to rise as the degree of satisfaction with the careers guidance they received increased. Perhaps they found their course of study more meaningful once they could see how it is related to the world of work. This is not to argue that the careers guidance lessons that were given in secondary vocational school assembly once a week were a failure and served no useful purpose. However, the purpose of such lessons is not always easy to determine, and it may be that their usefulness lies in a general preparation of vocational stream students for the labour market. But it seems clear from the information that whatever they achieve, they were not having any obvious influence on the development of the vocational stream students' particular occupational expectations.

9.4 CGAC Teachers' Perceptions of the Careers Roles

Throughout all the areas of careers guidance programmes in secondary vocational schools the main complaint the CGAC teachers had was the lack of time available to perform their function more effectively. There is no easy answer to the question 'what is the minimum amount of time which a careers teacher requires in order to fulfil his careers role adequately?' The careers guidance and counselling teachers might operate quite effectively with very little special remission whilst it is difficult to imagine that one careers guidance teacher could make a significant impact with anything less than a half-time allocation. The amount of time required depends upon the scope of the job description, on the objectives set out for the CGAC service as a whole and the personality and drive of the persons involved.

The data from the research indicates that in developing criteria by which secondary vocational school careers guidance can be assessed, however, the CGAC teacher should have a reduced teaching timetable - perhaps half the normal load - so as to allow them adequate time for their careers guidance programmes with individual students and for keeping abreast of local employment trends and opportunities. Indeed a lot of their careers work has to be done in 'free' periods and after school. In the sample secondary vocational schools, no CGAC teachers (including the CGAC headteachers), spent over half their timetable on careers activities. This corresponds to the comments from the CGAC teachers:

CGAC(SVS/A) I'm now teaching for 18 periods per week. Normally, counselling and careers guidance teachers only teach about 12 periods per week and the rest is for counselling and careers guidance works. Beside being the head of this unit I'm also the head of Malay language teaching.....therefore there's a lot of administrative work that must also be done.

Do this affect you as a counsellor?

Err.....affected by the time. I'm teaching Malay language and these need time to look over the students' books. I think I have too many responsibilities.....some time I'm not satisfied with my work.

CGAC(SVS/C) Err...I didn't blame the school administration procedure in allocating the time for careers guidance teachers because all of us are not a full-time counsellor. We still have to teach due to the shortage of subject teachers. According to the Ministry of Education the careers teachers are supposed to teach 12 periods per week, but the reality is we are now teaching up to 25 periods per week. With this teaching load time to give counselling and careers guidance are limited. However, we try our best to give counselling and careers information to the students. But now I can see the co-operation is getting better by the teachers and school administration. Other teachers can co-operate by giving information about students that have problems to this unit.

After discovering that most secondary vocational school CGAC teachers have very little official time at their disposal, a 'two hours per week' time criterion was chosen. All the vocational school establishments in this study had no CGAC teacher with a significant amount of time allocated for careers duties. When viewed in terms of the time allocated to the careers work, it was clear that a distinction could be made between CGAC teacher and other academic and technical staff. Irrespective of level of identity and commitment, however, most CGAC teachers cannot anticipate with any confidence how far their involvement will prove a resource or ability in terms of personal career progression. This problem arises because so much ambiguity continues to surround the whole field of careers work in secondary vocational schools.

Many CGAC teachers feel unhappy about their careers guidance role if they have not had any specific training for it, but some find themselves at times undertaking a counselling function. Some CGAC teachers' sense of inadequacy for the demands of careers work, and the limitations upon training opportunity, impose constraints upon the Principal's ability to deploy the staff where need arises and enrich the programme of careers guidance. The CGAC teachers interviewed were asked whether or not they had undertaken a careers guidance training course of more than one semester's duration. This might reasonably be argued to be the minimum period in which a trainee could become equipped with basic careers and counselling skills. This is clearly stated by CGAC headteacher at SVS/A:

CGAC(SVS/A): Yes.....under this unit we have 8 counselling and careers guidance teachers, but all of them are not full-time counsellors. Interestingly, not one of them has any qualifications in counselling. We only have careers guidance and counselling knowledge and experiences through in-service courses for about two weeks, organised by the Technical Education Division. Due to many factors, it takes time for the careers

guidance and counselling teachers to go for in-service training. Err....this is the reason why some teachers looked down on the capabilities of the careers guidance teachers. Sometimes we have a hard time to get their co-operation in any careers activities. No doubt, a qualified counsellor can apply their knowledge and experience in counselling and guidance more efficiently to the students compared to us.

Data from the research indicates that CGAC teachers had moved into careers work from teaching rather than from some other careers or guidance post. For the teachers who moved into careers guidance work, in-service training courses offer the most accessible means by which guidance can be acquired, especially as secondments for more substantive training are now more difficult to obtain. These short courses also afford the opportunity for CGAC teachers of all degrees of experience to meet fellow practitioners, to exchange ideas and up-to-date existing knowledge - all processes which contribute towards the development of a progressive careers guidance service which is responsive to changing needs. This is clearly acknowledged by one CGAC teacher:

CGAC(SVS/A) Err...one of them had minor knowledge in counselling from the University (took some of the counselling subjects as an elective subjects) and the other teacher went for an in-service course. The course will give the careers teachers a chance to share and exchange ideas of their careers work experience. Furthermore, I think, at present the provision of accurate, wide-ranging and up-to date information and effective guidance on employment matter is limited because of the careers teachers' knowledge and experience.

Based on the statements above, there is a need to increase CGAC teachers' knowledge of industry and commerce. Two valuable developments in careers guidance would be the recruitment of people with considerable industrial and commercial experience, together with greater in-service opportunities for careers guidance teachers to keep abreast of trends in the employment structure.

Careers guidance as an important component of education has rarely been disputed. Data from the research indicates that any deficiency in the implementation of the programme in secondary vocational schools is probably due to the tensions among the priorities. The failure was attributed to various factors, including the perceived lack of understanding and support from the school's Principal; due to the current climate in Malaysian education, academic achievement has always been given top priority. Hence, any programme that is seen to be less directly related to academic work will be given somewhat less priority. This is similar to the comment from one CGAC teacher:

CGAC(SVS/A) I think the Principal is interested more on academic achievement. As an example he had asked me to conduct a course on learning skill and mentor system to the students. As for careers guidance activities, he never mentioned anything. He wants good academic results. For example if the students industrial visit was not made compulsory by the Ministry of Education, there are sure many obstacles from him.

In general, the lack of comprehensive careers guidance activities in the school sample is not the result of disagreement over the importance of careers guidance, but, instead, the result of limited funding. The development of a comprehensive careers guidance programme, one that, for instance, includes work-site internships for teachers and students, requires financial resources and staff commitments that many secondary vocational schools do not have. As a result of these limitations, the necessary careers guidance activities tend to develop at a slightly slower pace than the other operational activities.

It is observed that generally the manpower available is adequate for the purpose of conducting careers guidance in the secondary vocational schools. However, the study also indicates some deficiencies, namely: Firstly; the career resources in the CGAC room

are still inadequate, presumably due to lack of funds or knowledge about career information. As one of the CGAC headteachers said:

CGAC(SVS/C)The careers guidance and counselling unit had done some paper cutting for careers information to be pasted on the notice board and provide various pamphlets regarding occupations and further education in this unit for the students to read. Unfortunately, the fund from the administration is not adequate for this purpose. There's a few training centres and higher institutions that send careers information for a certain courses for vocational school leavers. Information from the private sectors are difficult unless we make a request for it. I agree that the information from the private sectors are important but unfortunately this unit suffers from a lack of staff to deal with this matter. So far we get current careers information through student's industrial visit.

Secondly, while there is a relative improvement with regard to percentage of students meeting the CGAC teachers and discussing their problems or plans, there is still a good majority of them (58.7%) who have not come forward. The CGAC role is to help vocational stream students to make a choice or to develop expectations, but to do so in a flexible and open manner. Part of the significance of a careers guidance programme in secondary vocational schools has been on decision-making. This process is helping students to reach decisions about the future. Given the present difficult employment situation, however, it is a mistake for students to make clear and certain decisions at an early stage about what they are going to do on leaving school. Evidence from this research supports the view that many students were keen to make up their minds about what they were going to do. In these circumstances they need to be encouraged to look at different possibilities, to consider alternatives and to keep an open mind to the future. CGAC in secondary vocational schools, therefore, needs to do what it has always attempted to do, namely, help students to achieve self-awareness and a knowledge of the

nature of occupations, but at the same time to discourage them from setting their minds too narrowly on one particular occupation. However, there are a lack of activities, time and knowledge about the role of CGAC teacher and, perhaps, some of their problems have been resolved at home by the parents. For example one student said:

ST(SVS/B) I've never discussed my careers future with the careers guidance teacher so far. Sometimes I wanted to but I have no time to see him. I don't know why I didn't think of it. Maybe, my friends too didn't do it. The counselling and careers guidance unit had allocate some time for discussion but there is no response from the students. The students that come to the unit usually are called by the careers guidance teacher who might already know their problems. Normally we discuss about careers among ourselves who are on the same course. To discuss the problems of our future career with the careers guidance teacher is a bit difficult for us , I don't know why..... maybe, because I think the role of counselling and careers guidance teachers are more towards personal counselling and discipline. If we want to know about our careers, it's better to ask our course teacher (*Male Student*).

Thirdly, CGAC activities have not been extensively organised and, if organised, may not be seen as useful by the majority of the vocational stream students. It is the school's responsibility to help vocational stream students become more aware of the employment world. The CGAC teachers should help vocational stream students to understand the process they are going through. They should be enabled to see how the schooling process and their performance in it has already conditioned their future, and how the nature of the labour market and the structure of opportunities will largely determine what happens to them later on. Every true attempt at guidance must involve helping the students to see, understand and accept the reality of the position they are in. To advise vocational stream students of the reality of their situation is, of course, generally acknowledged by CGAC teachers to be part of their role. But it is doubtful to what extent CGAC teachers do in fact help students to see how vocational education shapes their

future, or to understand how the realities of the labour market will affect them - both of which need to be understood and accepted if vocational stream students are to make realistic and reasonable decisions about their future. The school talk is intended to be a general introduction to the world of work and is intended to pave the way for the more important careers guidance interview in which the CGAC teacher will attempt to match the interest and abilities of an individual student to a particular occupation. However, the data from the SVS/C indicates that the student complaint was 'I learned nothing new', which was due to the fact that by the time they reached the age when they were eligible to attend the talks they already had a specific occupation in mind, and therefore needed detailed information rather than general comments about the world of work. This was clearly stated by CGAC teachers:

CGAC(SVS/A) Normally we give a careers talks regarding the prospect of further studies and future careers of all the courses offered to the new students. The careers guidance teachers will emphasis more careers activities to the final year (Form V) students e.g. individual interview, industry visit and careers seminar.

CGAC(SVS/B) Yes, I think it is necessary to give careers talks or seminars to the vocational students. We can't depend on the information from the careers pamphlets brochures only, because not all the students will come to this unit and read it. If we give careers talks to the students they have to attend and listen because it was made during the school hours. For the past year there were only 2 talks being given to the Form IV and Form V students but in the future we will try to give more. Usually we call the professional from the industries and other institutions nearby because the one that is far from the school are quite difficult to get their co-operation. For example there were two big companies that were unable to give careers talks. For this year I had plan to invite small-entrepreneur in automotive or welding workshop to give careers talks to the engineering trade students.

CGAC(SVS/C) Yes, we have given careers talks to all the Form V students in the early semester. In the careers activities, I had called speakers from National

Semiconductor, Lion Computer, Matshushita and some other companies to give talks on careers opportunities. Beside that I had organised student industrial visit according to their courses. Normally the industrial visit was organised in July and the industries are very co-operative.

Considering the statements above, it would seem to indicate that the school talk should be held much earlier in a student's school life. All the sample schools held such talks during the final year at school, which is surely too late to have any real influence upon student choice of occupations. It would perhaps be more useful from the student's viewpoint if it was held as early as Form IV, and perhaps with more than one talk given.

CGAC which had better career services and had a closer relationship with industries were more positive about their student employment opportunities. It is possible that better information exchange with industries concerning the state of the labour market helped CGAC teachers provide more informed careers guidance to their students. It is therefore verified that the characteristics of CGAC Units are the critical factors influencing the provision of quality career and labour market information for the students' benefit.

The school talk can prove useful in helping to direct student's thinking towards work and what it will involve. The data from the research reveals some comments about the advantages of careers talks and industrial visits from the CGAC teachers:

CGAC(SVS/A)There is one company (Container Company) who came to our school to give careers talks and at the same time interviewed 40 students amazingly, all the 40 students were employed. This means that the careers talks and exposure really can help the vocational students in getting a job.

CGAC(SVS/B) The advantages from the careers talks were not only they are exposed to the real world of work but also were given careers information. During the careers talks session the students have opportunities to ask questions, like how they can improve their socio-economy position after being employed. The students will be fully satisfied because they were informed by the company's professionals. The good thing is that the students are given chances to contact the industries if they are interested to work there after leaving the school.

CGAC(SVS/A) I feel if this careers exposure can be valued, I'm sure there will be students working in that company. From student's industrial visit organised by the school, there are some students who will contact the company to get a job there after they leave the school. Through these activities I think both parties will gain equal benefit, the school can provide skilled students as workers and the employers can get skilled workers easily.

It would seem therefore that careers talks will give the vocational stream students an opportunity not only to gain information on establishments from the speaker but also to ask questions they may want answering. An alternative to industry sending information to schools and visiting schools, students could visit industry to see what it is actually like working in certain careers. It is possible for both CGAC teachers and vocational stream students to visit various establishments and to be shown the real world of industry. This has a dual function: that is, firstly enabling students to gain an insight into what it is like to work in various places which will help them in deciding on their career. Secondly, CGAC teachers will gain an insight into various places of work thus enabling them to give more practically informed advice to other students interested in certain occupations. Furthermore, the purpose of visiting industries can be summarised based on CGAC teachers interviewed: a) to pay a courtesy visit in order to maintain a pleasant relationship, in the case of companies which have had previous contact with the school; b) to

get comments on how the vocational school leavers are coping with the work environment, which will constitute valuable information when giving guidance to this year's students; c) to start a relationship with new companies by marketing the school; d) to observe and experience the company first-hand and to keep up-to-date with various aspects of the company which change over time; e) to get some idea of the company's employment plan this year. Consequently, the CGAC teachers claimed that they could obtain such information more effectively than the students who lacked the necessary maturity:

CGAC(SVS/A)students are not yet mature enough to make a proper judgement, certainly not to the same extent as we do. Students can't see the subtle clues regarding the industry's economic and employment situation from just talking to the industry's personnel people.

The data indicates that the role of industry in careers guidance is of great importance in helping students make informed decisions. It is for this reason that vocational schools need to encourage the industry to get involved in the careers guidance process and for schools to encourage CGAC teachers and other teachers to liaise with industry in these matters. This is clearly acknowledged by one CGAC teacher who mentioned that:

CGAC(SVS/A) Right now there are employers who have already given information on job vacancies to the careers unit. Furthermore, when a particular student would like to work in a certain area, employers could be used as a point of referral and will be asked if they would like the service of this student with a particular skill.

As the employment structure grows more and more complex many CGAC teachers in the secondary vocational schools are becoming increasingly aware of the handicap which this lack of knowledge and experience constitutes. They feel that at best they provide only a partial service for their students. Many vocational stream students

similarly feel that CGAC teacher are insufficiently informed and in touch with the world of work.

Another important role of CGAC is to help vocational students to engage with the labour market or with whatever structure of opportunities in advanced skills training and further education may exist after school. It has frequently been said that CGAC needs to develop new ways of assisting students in the face of the adverse employment situation. The impact of the labour market seems to be felt only at the time of the students leaving school. There is no substantial period of time during which careers expectations or choices can be adjusted to take account of the actual structure of opportunities in the local industries' areas. Careers guidance in secondary vocational schools, therefore, should be attempting to mediate between choices and opportunities and to give assistance to the vocational stream students in finding an entry in the local opportunity structure. For the CGAC teachers this does not mean helping them to find a occupation. It means assisting them to understand what the local industries' opportunity structure is like, where their own competencies and interests might possibly find expression within that structure, and how best to go about finding an opening in it.

Helping vocational stream students to find a point of entry in the local opportunity structure is not only a matter of giving them general information about the local market and general advice about job seeking and applications. It involves assisting each student to look at the kinds of jobs done in the locality, at the local training opportunities, and at the places where those who left vocational school in the past few years have found employment; and then helping them to relate these quite specifically to their own interests,

qualifications and skills. It is a matter of making the 'opportunity awareness' aspect of careers guidance activities not only something that is part of general careers guidance, but a part of individual careers guidance. By undertaking this effort to relate the specific expectations of the students at school to the specific condition they will confront on leaving school, careers guidance in secondary vocational schools could reduce the shock impact of the labour market, and make it easier for some of them at least to find an appropriate occupation.

Moreover, the role of CGAC teachers is not only to place students in jobs but they also have a moral obligation to ensure that the job provides reasonable conditions of service. For example, on visiting places the CGAC teacher could talk to both the employer and the employees concerning conditions of work to try and decide if they are of a reasonable standard. Information gained on such visits could be used in any future CGAC sessions. Unfortunately, the data indicates that this area of work is as yet at a very underdeveloped stage mainly due to the lack of time the CGAC teachers are allocated for such work. One CGAC teacher expressed this views:

CGAC(SVS/A) We do teach the subject according to our specialisation and besides being responsible to other duties like as a class teacher or course teacher. So, we really have no time to do more the careers guidance activities.

The majority of the vocational stream students in the sample were offered some careers guidance by their course teachers. Course teachers and CGAC teachers were perceived to be the most obliging in this respect, but some students added that advice was only given when the students asked for it. Since very few students had the confidence to initiate a meeting with CGAC teacher, they consulted their course teachers who appeared to offer informal advice during the

practical period. Interestingly, only the CGAC Headteacher at SVS/B interviewed every month 5 students individually, thus eliminating the need for these students to approach him.

The quality and quantity of CGAC in the three secondary vocational schools can be determined by the fact that, during the interviews, a number of students asked me about polytechnic courses and the subjects which should be studied to go into certain occupations: questions that they had been hesitant to ask the teachers for fear of being perceived as ignorant, or questions that had been left unanswered.

With many skilled jobs currently available for young people about to enter the labour market as well as adults who need or wish to find new jobs, a questioning of the role of CGAC in today's secondary vocational schools has taken place. It has, for instance, been claimed by some CGAC teachers that careers programmes can be counter-productive by raising students' awareness and interest in jobs which no longer exist or are exceeding difficult to attain.

It can be argued in this study that almost all vocational school students have more opportunities than they realise. They often under-aspire, make narrow occupational expectations and fail to begin their career planning at a sufficiently early stage. This is clearly illustrated by one CGAC teacher:

CGAC(SVS/C) Yes, most of the vocational students felt that their occupational opportunities are only for the skilled jobs that are directly related to their course. I think this is wrong..... If we look carefully the Malaysian's Dictionary of Occupational Title (DOT) the occupations are not limited. There are more than 2000 types of occupations. Only the main problem is that some of the occupations are not in demand by the

market. Many of the vocational students are in the 'realistic' group, but actually they can broaden their careers opportunities by combining 'realistic' and 'enterprising' that is to be an entrepreneur or businessman. This means that the occupational opportunities are not limited by combining between 'realistic' (R), 'investigative' (I), 'artistic' (A), 'social' (S), 'enterprising' (E) and 'conventional' (C) groups. This should be our responsibility to make the students understand that they actually have a broad field of occupational choice even though they only have one particular skill.

Some of the CGAC teachers tend to lack basic information about jobs and the work environment as well as the skills needed to operate effectively within the range of options available to them. The growth of such knowledge and skills is generally considered to be the major concern of CGAC teachers. A well-trained CGAC teacher should be capable, it can be further maintained, of providing realistic guidance, of coping with problems of over- and under-aspiration and of making any careers guidance information imparted to students relevant to the individual as well as the group of courses. Thus, rather than careers guidance for students being a pointless pursuit, it would seem to require increased emphasis, more careful execution and a broadening in scope. Such developments are deterred because so many careers guidance teachers in vocational secondary schools are over-worked, untrained and unsupported in their work, and often lack the co-operation of their academic colleagues. Data from the research showed CGAC teachers do not represent a homogeneous group of teachers with similar subject backgrounds, skills, or experiences. They were at one and the same time ordinary subject teachers. The teachers who doubled up in this way were more likely to have been delegated the responsibility by the Principal, rather than have volunteered for it. Most CGAC teachers in the sample schools had little or no knowledge of counselling and careers guidance before they

began and few had received any substantial training subsequently. This is clearly stated by CGAC teachers:

CGAC(SVS/B) We only have counselling and careers guidance knowledge and experiences through in-service courses, organised by the Technical Education Division. Due to many factors, it takes time for the teachers to go for counselling and careers guidance in-service training. No doubt, a qualified counsellor can apply their knowledge and experience in counselling and guidance more efficiently to the students compared to us.

CGAC(SVS/C) Err.... the counselling and careers guidance unit was established since I was posted here in 1990 and the headteacher asked me to be a part-time counsellor until 1993. After that there was one other teacher took over until 1995. Again, the headteacher assigned me officially to take the responsibility for this unit as a counselling and careers guidance teacher until now.I do believe that there are some teachers who rarely trust my responsibility as a counsellor and careers guidance teacher since I have no adequate knowledge and experience in this field. I realised it when a course teacher argued about my teaching..... I should teach the electronic subjects because I had qualification in this field. But, they should understand giving careers guidance to the vocational students before they go to world of work is vital.

In spite of the persistently poor level of resourcing and recognition and the ambivalent attitude of the TAVED, one of the most striking features of these CGAC teachers was the degree of commitment and dedication to their work.

The data from the research indicates that in SVS/A, misunderstandings between CGAC unit and course Headteacher have arisen, for instance, with regard to the question of job placement. The CGAC unit has been exhorted to become more directly involved in placement activities on behalf of students and criticised for seemingly taking a passive role in this area. Some have even been partly blamed

by other teachers for the current difficulty by the careers guidance teachers because they are not deeply involved in job placement. They think that appointment work is extremely time-consuming and requires a great deal of effort, resources and expertise. The CGAC currently lack such elements and it would take several years to established the necessary mechanisms and network of contacts.

With further regard to broadening the scope of careers guidance, data from the research indicates that the CGAC teachers have to pay attention to help students to cope with working life, and with unemployment, after they leave vocational schools. This does not mean preparing students for a life in which there will be periods of unemployment. It is a matter of giving students the adequate vocational and social skills they need for working life, important as these are. Particularly in view of the fact that the vocational education system itself forms part of the process by which vocational stream students come to be in specific jobs, it is essential that schools cope with and rise above the limitations of narrow and frustrating work situations. They need to be helped to be bigger than their jobs, and not to be constrained and limited by the boundaries of a restricted job.

Certainly, the secondary vocational schools have already established local industrial support for unemployed vocational stream school leavers and offered counselling sessions for present students on questions of unemployment. However, the CGAC teachers still need more co-operation from the industries to reduce some misunderstanding in certain cases. This is confirmed by such responses as:

CGAC(SVS/B) The co-operation is very important, but so far there's only one industry that co-operate with this school that is S.G.S. Thompson (Electronic industry). This

industry had chosen this school to be their foster-school. Every year the company employs many students from this school especially from the electronic course. For this year only, their professional had come twice to give careers talks to this school. This is our effort to get more industries to co-operate with the school in order to expose careers information to the students. This effort is needed because most of the students didn't know at all about jobs opportunities at a certain industry. For example, recently there's a talk from Ramada Hotel that they need not only workers for hotel and catering but also workers for building construction and air-conditioning. So this exposure is important, if not the students have little expectations towards occupational opportunities.

CGAC(SVS/C) Err..... so far the co-operation is there but we still have a gap in certain cases. There are still many employers who do not recognise the vocational school leavers to be a junior technician or technician. They always give them the job of a production operator. They are in favour of hiring technicians from the polytechnics' graduate. That's the reason why the careers information that we have had from them are only for skilled or semi-skilled jobs.

This study would support the view of Watt and Herr (1976) that careers guidance can function as part of an apparatus of social control in the sense that it tries to make individuals adapt to the reality of manpower needs of an economy. In general, Roberts (1977:5) seems to regard careers guidance as being almost inevitably cast in this social control role. He made the same point:

.....The choices that are available to individuals are rarely difficult to make. Job preferences are not mere matters of individual taste but are determined by a system of stratification. From much of the material disseminated for careers guidance purposes, one would hardly imagine that we live in a society in which occupations are arranged in a hierarchy, the main structure of which is well known and agreed among the public at large, including adolescents. Guidance materials written for secondary school pupils stress how different occupations demand and allow of the expression of different interests, abilities and aptitudes. There is considerably less

emphasis upon the inequalities of income, power and prestige around which other differences in values and life-styles crystallise to shape what is commonly known as the class structure. The relative desirability of different occupations is socially structured, and treating the individual's occupational choice as problem requiring careful investigation and systematic guidance only mystifies blunt facts of the situation.

In fact, he argues, the relative attractiveness of occupations is socially structured, and people are in common agreement about what the structure is. Therefore, every student is a competitor in a common race to achieve a job as far up the status hierarchy as is accessible to them. If students really did carefully consider all the vocational training options open to them and select the one that suited their needs, then the market controls might have a partly beneficial effect. Unfortunately, data from the research indicates that, students did not make those types of choice. This is confirmed by one careers teacher:

CGAC(SVS/B):Most of the vocational students did not know much about the course programmes they were choosing, and usually choices of job were not made from the full range of available information.

Therefore, the careers guidance roles are: first, to help students to understand the process they are involved in; secondly, to develop flexible expectations; thirdly, to engage with the structure of opportunities and finally to cope with working life. All of this has more to do with developing attitudes and all can happen naturally within the give-and-take of a meaningful relationship.

It is clear that the secondary vocational schools in this study, are not really fulfilling their role of imparting information. Moreover, the CGAC provided by them appears to omit the essential element of students' interviews before they leave school. On the other hand, parental attitude, despite reservations regarding the suitability of

certain fields of study and occupations, provides encouragement, and is instrumental in helping the students to realise their aspirations.

9.5 Conclusion

Careers guidance and counselling now encompasses much wider objectives than merely informing vocational stream students about the world of work, covering such areas as the growth of careers and self-awareness, decision-making and the practical skills needed in preparing for transition. It remains relatively undeveloped in secondary vocational schools, although it is generally perceived to be of growing importance. In the majority of secondary vocational schools, careers guidance comprises of (often irregular) careers talks, occasional careers seminars and increasingly, industrial visit opportunities. Careers guidance remains an extracurricular activity and academic as well as course staff in secondary vocational schools have shown resistance to it becoming otherwise, despite the fact that students often lack occupational maturity.

Careers guidance programmes have been more successful at helping those students who want to move on to further education than students who want to move into the labour market. The study revealed that for most careers guidance programmes in secondary vocational schools, perceived strengths are educational counselling and programme planning/course selection. Weaknesses tend to be in job placement and careers guidance which is similar to Manely et al.'s (1986) finding.

It is too easily assumed that ability and potential are static and permanent. Students may be encouraged to work, but if they are not motivated to work harder, they are unlikely to achieve the goals they have set for themselves. It will be advantageous if it is continually pointed out to vocational students, as early as Form IV, what kinds of skilled and grades are required to go into certain occupations. The correlation between present effort and ultimate career needs to be constantly emphasised. CGAC teachers appear to require more time for careers guidance outside their teaching commitments, so that they can guide the students even before they choose their options.

The data pertaining to careers guidance show that guidance service in SVSs was grossly inadequate. Overall, students perceived that the level of careers guidance provided during schooling was inadequate to their needs during this important decision-making phase of their life. The majority of the students who did receive some form of career information obtained it from their course teachers and parents and only a small minority received such guidance from their CGAC teachers. The fact that few students visited their CGAC units struck a similar chord to Amir @ Khamis and Latif's (1987) finding on the low level of student contacts with CGAC teachers. Vocational stream students were generally sceptical about the usefulness of advice received from CGAC units. However, students highly valued more opportunities to develop contacts with employers and enhance their knowledge of the world of work through career seminars and discussions with prospective employers.

The success of careers programmes in secondary vocational schools appears to depend on several key factors, of which the degree of co-operation achieved between academic and course teachers, administration and employers is of prime importance. Positive course

teachers, promoted by the work of CGAC unit and invitations to academic teachers to participate fully in the planning of events, are not only vital to successful programmes, but are also likely to be reflected in the views of students. All aspects of careers guidance activities in secondary vocational schools suffer from a lack of professional expertise since they are not qualified counsellors. There is a clear need for increased TAVED support in this area and for staff to attend in-service training which would indicate to them the most efficient means of overcoming the previously outlined problems.

The data indicates that the problems appear to be complex and deep-rooted, most of which are possibly related to poor rapport with overburdened academics, shortages of CGAC teachers, financial constraints and academic bureaucracy. It is perceived that CGAC units require more authority and funding to deliver their services with greater confidence and credibility. Additionally, the SVSs and employers should recognise the critical role of CGAC units as an intermediary between students and employers. Increasingly the CGAC service has become an important feature in the strategy for the successful implementation of educational programme. Without it the aims of educational endeavours may dissipate.

CHAPTER TEN

THE ROLE OF THE TECHNICAL AND VOCATIONAL EDUCATION PLANNERS IN RELATION TO THE WAY MANPOWER AND EDUCATIONAL PLANNING HAS DEVELOPED

10.1 Introduction

This Chapter pulls together salient findings regarding the role of the technical and vocational education planners in relation to the way manpower and educational planning has developed in Malaysia. Data is drawn from documents and interviews and discusses them in the light of manpower and educational planning literature reviewed in Chapter 3.

10.2 Vocational Education and Manpower Planning

The Ministry of Education is the principal government agency responsible for the maintenance and development of education in the country. Its authority extends over all public (government), and to a lesser extent, private, educational institutions ranging from pre-school to universities. The Ministry comprises ten divisions of which only two are directly relevant to this study. They are the Educational Planning and Research Division (EPRD) and the Technical and Vocational Education Division (TAVED). The EPRD serves as the Secretariat to the Educational Planning Committee (EPC) of the Ministry responsible for policies, planning, research and monitoring the implementation of on-going educational programmes. The TAVED is important not so much for its share of total enrolment but because of the increasing emphasis placed on technical and vocational education. The division

is responsible for planning, organising and supervising pre-vocational studies in lower secondary schools and developing technical and vocational education in upper secondary schools.

The role of planning, co-ordinating and monitoring of technical and vocational education in the Ministry of Education comes under the purview of TAVED. TAVED is also responsible for providing input to the policy of technical and vocational education. As one TAVED's officer said:

TAVEDBut if you ask me who makes the vocational education policy..., the powers that be. We provide the inputs. As far as we are concerned about the technical and vocational education, we get inputs from all parties. We read from the newspapers, we listen to whatever politicians say. We get our input from other people's research. And then we fit it with our's.

It appears during the interviews that the most important agenda to address in the planning of vocational education was to align with the Vision 2020 (Datuk Sri Dr Mahathir, 1991). As the country comes to terms with the challenges of changing economic and social circumstances, vocational education has re-appeared as one of the important tools of education policy and formed a good basis for the launching of the renewed policy and programmes. Two TAVED's officers expressed this point clearly:

TAVEDI think any policy dealing with education has to be in the context of the vision made by our prime minister. That is the bottom line. I would say that it is not just a vision. It can be put into action and will be achieved. I think as far as our technical and vocational education is concerned, we have taken positive steps in that direction.

TAVEDBasically our target of vocational outputs are just to meet the manpower requirement. Malaysian industrial developments have gone to a higher stage now with a high technology and precision. We have to be an industrialised country.

At the time of the visit, TAVED was busy elaborating plans on how to improve the vocational education system. One of the areas of improvement is the curriculum of the vocational education programme MCE(V). This is clearly stated by TAVED's officer:

TAVEDconverting these vocational schools from specific skills to a very broad. We are reviewing the curriculum. Because it is more on engineering, so we are introducing some sort of engineering courses for engineering and industrial sectors.

The drive to review vocational education was motivated by the announcement of the Minister of Education on the new role of secondary vocational schools in producing more technically-skilled workforce:

The Education Ministry will prepare a blueprint on technical and vocational education with the aim of improving the quality of students in vocational schools and producing more technically-skilled workforce...."This matter will be given serious attention by the Ministry," Najib (the Minister) said adding that the syllabus of vocational schools might have to undergo changes to make technical subjects more "interesting and current" to meet national needs.

(The New Strait Times, 12 May 1995)

Integration of academic and technical education into vocational education programmes was central to the restructuring of MCE(V) curriculum with language, mathematics and sciences regarded as the fundamental tools of future learning to enable individuals to be flexible and adaptable to respond to the uncertainty of the future. This is clearly acknowledge by one TAVED's officer:

TAVEDOur vocational programmes are now strengthening the generic skills to provide a flexible workforce. In order to achieve this, the vocational students must have basic strengths in mathematics and science.

A technical and vocational education planner, fully aware that the proposed change by TAVED had already reached the cabinet level, maintained that:

EPRDIt is good for the Ministry of Education to have a higher enrolment in the science and technology areas in vocational schools. The skill training should be done by the agencies already undertaking those type of training such as ITI (Industrial Training Institute) or MARA (*Majlis Amanah Rakyat*).

Another technical and vocational education planner who dealt with the supply side of manpower also agreed with the new development on vocational education system as proposed by TAVED:

EPRDThe Ministry of Education is trying to restructure the technical and vocational education function. The new vocational programmes will enable the students to further their studies to the polytechnics. We want to emphasise technical education and what we intend to do is to produce more technicians and assistant engineers. There is a big gap in the supply and demand of these particular occupations. We still have the other ministries doing vocational training for the labour market.

In this case, greater importance was in fact granted to the improvement of vocational education programmes MCE(V) than the skill programmes. Although the skill programmes will be marginalised in SVS, the programmes would be expanded in other agencies and ministries like the Manpower Department, Ministry of Youth and Sports, and MARA of Ministry of Public Enterprise. Almost all officials in the interviews agreed on the importance of changes taking place, critical challenges of the Vision 2020 at present to the country, and the necessity to improve the vocational education and training at secondary vocational schools as an indispensable part of the efforts to realise the challenges.

The accumulating evidence from over two decades relating to both Western and developing countries, has argued strongly against vocational schooling on cost-benefit grounds. Comparing labour market outcomes of vocational with general academic schooling,

mainly at the secondary level, has been extensively reviewed by Zymelman (1976), Psacharopoulos (1987) and Tilak (1988); it has been argued recently by two World Bank studies of vocational education, for Peru (Moock and Bellew, 1988) and for the Ivory Coast (Grootaert, 1988), both of which reach similar negative results with regard to vocational schools.

However, some recent studies in the United States have reached very different conclusions. Focused more closely than earlier studies on the type of jobs held by vocational school leavers and their relation to vocational course studied (Campbell, et al., 1986 and 1987) as well as on more relevant measures of vocational education (Meyer, 1981), this research reaches far more positive conclusions with regard to vocational schooling. In particular, it concludes that vocational education gives a labour market advantage, whether in terms of labour force participation, earning or unemployment, to those high school-leavers who work in jobs related to the vocational courses followed at school; vocational leavers working outside their training speciality fare no better than workers who have pursued general academic tracks. This is clearly admitted by one TAVED officer during an interview:

CT(SVS/A) I think if the SVS (secondary vocational school) students did not have the opportunity to further their studies, they like to work as a technician in their related course and many of them work as a production operator as a start in order to get a post as a supervisor. But for those who did not work in their related course, they will be paid less compared to the others. Moreover, private sectors have more interest in hiring SVS school leavers even though the jobs offered were not really related to their course, but they know these students' attitudes are more diligent and spiritually capable since they were in school, compared to the academic school leavers.

However, a very large number of vocational school-leavers entered skilled jobs without having studied the same field in school. This

suggests that employers did not attach much importance to qualifications in these particular vocational subjects when recruiting students for these jobs. This in turn leads us to suppose that the connection which did exist between studying vocational skills and entering related jobs came about not so much because these skills were seen as useful by employers but because they were related to the student's expectations.

Certainly, manpower planning has been an integral part of the Malaysia national development plans and has been employed as the link between socio-economic and educational planning since the First Malaysian Plan (1966-1970). Manpower planning in Malaysia has objectives similar to those described in the literature. It aims at identifying manpower requirements for the national economy and providing guidelines for educational planning. The concept of forecasting manpower requirements is today the leading method throughout the world for integrating educational and economic planning (Blaug, 1980). The vocational education system has therefore a particular responsibility within the modern development process. The choice of a model to be adopted will depend on the viewpoint of the planner. The vocational educational system has to be organised in such a way that the graduates of the vocational educational system correspond qualitatively and quantitatively to the future requirements of the employment system. Some of the efforts done in forecasting manpower needs at the national level are: Manpower Survey 1965; Manpower Survey 1974; and Towards a Master Plan on Manpower and Training (IMP).

There are good grounds for believing that even the most sophisticated attempts at long-term manpower forecasting should play no more than a subsidiary role in vocational educational planning. For one

thing, as Ahmad and Blau (1973: 322) conclude, "it does not appear that manpower pattern can be predicted ten years hence with the degree of accuracy required by educational planners and to pretend otherwise can only do a disservice to the cause of educational planning". For another, clearly economic growth is compatible with a fairly wide range of manpower structures and, presumably therefore, with a variety of alternative educational decisions (OECD, 1970).

Estimates of skilled manpower demand usually employ the manpower requirement approach, which relies on estimates of the labour-output ratio, derived from historical series, and assumed to grow at a certain rate reflecting a rising productivity of labour. The labour-output coefficients by sectors, or a variation using employment elasticity measure, are then applied to projected sectoral national output to give future projections of new jobs required to achieve the output. These projections of skills requirements are then matched against estimates of supply at the various levels to provide a relatively crude measure of the supply gap. Manpower planning approach is, therefore, used primarily to determine the relative supply of knowledge and skill-based workers.

The true impact on the development of industrial skilled manpower depends on the access to and quality of vocational education, drop-out rates, technical orientation of students and length and quality of training. Vocational education is necessary to provide manpower for tasks that are tentatively simple and as a foundation for further training, while emphasis on science and engineering education at more advanced levels is necessary to acquire more complex skills to operate sophisticated technologies and cope with innovative needs.

The MOE, through its EPRD Unit, undertakes planning, research and development for vocational and technical education. MOE operates secondary vocational schools which provide for around 60 percent of Malaysia's estimated output of semi-skilled and skilled workers. One of the strategies identified to fulfil the development thrusts, as outlined in the OPP2 (Government of Malaysia, 1991b), is emphasising technical and vocational education which is vital for the production of skilled manpower to support the industrialisation programme as well as the growth of the modern sector of the economy. In this respect, one of the EPRD's officers said:

EPRDThe vocational and technical education system must be rationalised to effectively contribute to the human resource development objectives.

Manpower forecasting technique, the major tool used to project manpower demand and supply for the Malaysia economy, has some drawbacks which are of a similar nature to those described in the literature, particularly the difficulty of making detailed projections of various skills required over long periods of time due to economic fluctuations and changes in technology. Insufficient, unreliable and out-of-date data in the projection often results in large errors. Furthermore, labour substitution possibilities on the demand side in response to relative costs have often been neglected by this approach. The gap between the prospective demand and supply of manpower, if not bridged, can bring about several adverse implications for the country (Sulaiman, 1989). This was confirmed by one of the interviewed EPRD's officers:

EPRDThe shortage of skilled workers, if it cannot be eased, could lead to an upward pressure on wages. I think, the increase in wages, if not offset by the lowering of other cost of doing business in Malaysia, then the relative cost of doing business in Malaysia could increase. This could adversely affect Malaysia's position as a competitive business and investment centre.

Further, past experience indicates that manpower planning in Malaysia has not been successful in addressing skilled manpower requirements of the country. Unemployment has occurred among people of vocational educational levels, while at the same time, Malaysia is facing manpower shortages. Realising from its own experience the limitations of this approach, Malaysia has modified its manpower planning approach. For example, emphasis is given to analysis of the functions of the labour market and studies of manpower needs are now used to provide general indications for planning rather than adherence to precise manpower forecasts.

According to the technical and vocational education planners, western manpower planning models have not been successful in dealing with the problem of mismatches between the needs of labour market and products of the educational and training systems, mainly because of the social values, economic and political factors which are different from those of developed countries. In developing countries, economics are difficult to predict because they rely mainly on agricultural products which are highly influenced by nature and the world economy. Student enrolment numbers are often determined by social demand and political pressures rather than by economy-based manpower requirements, especially higher education. In a developing country like Malaysia, it is obvious that initially the educational demand will be primarily determined from manpower demand due to shortages of skilled manpower and need for provision of educational places to be involved in self-development. An actual empirical survey of the potential demand is therefore a yardstick for gauging the ability of present supply to cope with future growth. However, the political pressures inside and outside the education system are varied and may take many different forms. The data from the interviews also show that all the TAVED's officers said that secondary vocational schools are not following a manpower plan in planning for their student

enrolments. The student enrolment numbers are based on the school's capacity to absorb students in terms of classroom, teaching staff and training facilities. As one of the TAVED's officers said:

TAVEDTo answer your question direct about vocational student enrolment is difficult but the situation is so demanding. We are not planned to build a new secondary vocational school in the sense that to fulfil the demand forecasted by Economic Planning Unit (EPU) without considering any other constraints especially the financial. These are the main reasons why the Technical Education Division, Ministry of Education only take the number of students enrol according to the capacity of secondary vocational schools available.

The new admissions procedure for the secondary vocational schools, introduced in 1987, is a step in the right direction dispelling unfavourable impressions about the vocational programme. With the selective admissions procedure the vocational programme does not any more bear the stigma that it is a dead-end avenue for drop-outs. Individuals completing the vocational academic programme with MCE(V) can find openings to higher education institutions. While these changes are taking place, the vocational programme does not discard its original role of providing work-oriented education. In the new structure the role is maintained through the skills training stream of the vocational programme. The data from the research indicates that the MOE has in recent years allocated substantial funds to build more secondary vocational schools. This is timely and more in anticipation that industry in Malaysia will soon leapfrog into the hi-tech era:

TAVEDFor the time being the Ministry of Education plan to build the secondary vocational school based on district, these mean every district will have secondary vocational school. The schools will be equipped with up-to-date facilities and modern machinery.That's what we plan for the future.

The data from the research found that linkages between manpower and vocational educational planning in Malaysia are inadequate. The technical and vocational education planners said manpower planning had not been fully used to guide educational planning. This is partly because manpower and vocational educational plans are developed concurrently by two separate agencies, namely the EPU and the EPRD. Due to the constraints, sometimes educational plans have to be based on other sources of information (e.g. experts' opinions, follow-up studies of graduates) because manpower plans cannot be developed in time to be used as a basis for educational planning. This can be seen from the interviewed TAVED's officer in responding to the question 'what is the importance of follow-up studies in vocational educational planning?':

TAVED:Yes, I think the tracer studies or follow-up studies are vital. The purpose of the studies is to support in developing the future educational planning including the intention to find out whether trained students find it easy or difficult to obtain jobs in the fields for which they have been trained. Due to many reasons the finding from the tracer studies that were conducted by ourselves so far are not very helpful. Recently, The Ministry of Education did a specific project with the same aim they were called Project Benefit, Monitoring and Evaluation (PBME) and we were engaged with a local consultant to do the study.We want to see the effectiveness of the vocational programme to the industrial needs whether the quantity of vocational output is adequate, competence or incompetence, and skilled or unskilled. To me this project is very useful to the Ministry in order to develop the educational targets or plans. But it was a bit unfortunate, they are not capable because they don't understand the system, their methodology is wrong, so at the end we embargoed their study.

Manpower and vocational educational planning have worked toward different priorities. The main objective of manpower planning is to identify manpower requirements of the country, while vocational educational planning has three primary objectives of which meeting

manpower requirements is only one; the remaining two are the expansion of vocational education opportunities, and the qualitative improvement of vocational education processes and outcomes.

During the past three decades, Malaysia has achieved considerable success in increasing literacy rates and the number of primary, secondary, especially secondary vocational schools, and higher education participants, but their quality remains unsatisfactory. There are several issues facing the Malaysian education system, e.g. inequality of educational opportunities, the relevance of curriculum to the needs of the workplace and existence of vocationally educated but unemployed people. Needless to say, the vocational education curriculum must always be consistent with the needs and requirements of local industries and the direction of planned national development of the country. The direction of planned national development is important as in many cases, the 'lag time' required for implementation of vocational education programmes is substantial and if not planned in line with the direction of future national development, will be found to be lagging behind in training content and equipment.

The amount of literature and arguments on this issue are as old as vocational education itself. Malaysian secondary vocational schools are a complex school system. It is usually organised around two distinct functions: to provide broad-based vocational education and also job-specific vocational training. However, the need for a broad-based education is being increasingly justified as the changing trends in industry are slowly but surely reinforcing this position. One of the EPRD's officers outline the need for a broad-based curriculum in vocational education:

EPRDIt is necessary to provide a broad foundation which gives workers greater flexibility and resilience to changes in technology and change in the employment market. I think, the technology is becoming more complex and the need is increasingly toward more maturity and lower initial training. The curriculum should be directed towards a preparation of students that is initially broader in nature in order to facilitate more in-house specialised training in the later stages if necessary.I would say that modern technologies need workers with a broader breath of view, more knowledge and skills, and a greater adaptability to change. Many vocational areas of today require knowledge in more than one area.

Vocational education programmes conducted by the Ministry of Education, in Malaysia, have purposely taken a broad-based approach. This broad-based vocational education can be credited as the reason for the continued success and popularity of its vocational education programme when many other more narrow-based and terminal programmes have difficulty attracting students. Vocational education is in a more established position and is more readily accepted by society. The vocational programmes have produced skilled labour needed for the development of an industrial sector. The annual output of secondary vocational school graduates since the beginning of the decade is well over 10,000. Needless to say, a steady supply of skilled labour provides the impetus for industrial growth. It also provides a favourable condition to attract the flow of foreign investment into the country. According to a TAVED's officers of a multi-trade vocational school:

TAVEDWe have a different objective for the vocational stream and the skill stream students. We separate these students into two groups according to the offer from the Ministry of Education. So far, implementation we don't face much problems. The great thing about our graduate is that they don't face much problems after leaving school. Some of the vocational stream students will further their education to the polytechnics and most of the skill stream students will enter the labour market.

TAVEDWhat we have been doing now is very good. We have vocational stream and skill stream training. I think, we have done a good job. We have done something that no other country had done. We really concentrate on the provision of our vocational programme. I think, the programme that we have been offering to them makes an open door to the students who had lower grade in their Lower Secondary Assessment to gain any vocational skills.We are not wasting their time.

All the TAVED's officers considered that the two stream system introduced in 1987 has the advantages of providing broad-based vocational education and training which allows for entry level technical training for employment and continuing technical training at polytechnic level. In general, secondary vocational school has gained some degree of acceptance and respectability from students and parents. According to the report by TAVED (1993), the number of applicants including those with good grades in Lower Secondary Assessment (abbreviated PMR in Malay) has increased. The TAVED's officer claimed that as a result of better qualified students entering secondary vocational schools, coupled with the policy of streaming them, the secondary vocational schools have managed to improve the quality of achievement in the vocational and skill examinations.

A greater emphasis in secondary vocational school programmes on broad-based vocational and technical skills, technology and knowledge that have broad applicability to the different current and future use is needed to serve the interests of the Malaysian economy and society:

TAVEDWe would like the future skilled manpower capable of absorbing the new technology. Nowadays, the technology being used by the manufacturing and electronic industries are very dynamic and fantastic. I think in future we might not be able to see people operating manual tools anymore. Most of the people might interface with some equipments that have elements of computerisation and numerical control. Undoubtedly, the country needs that kind of skills through vocational schools.I think the critical factor for vocational school leavers are, they must not

depend on their skill only. I believe that those students who are good in maths and science can be trained and adjusted faster.

The views expressed above summed up the realisation of the TAVED official about the value of a retrainable workforce and the skills which are transferable to other jobs and occupations. These skills are not a substitute for job-specific skills, but are complementary to them. In the context of secondary vocational school, in addition to technical and vocational skill, general education and generic skills are also important tools for good citizenship and help people cope with change in all aspects of their lives. From the interviews, it was evidently clear that the main objective of the planning of vocational education is to produce a technically-skilled workforce.

Some of the secondary vocational school leavers appeared to have conceived the idea that they were specially trained and therefore believed that they have to work in their specialised field, although there was no demand. Even some officials held the same view despite their rhetoric about producing a broad-based, flexible and adaptable workforce:

TAVEDSome of our courses are outdated. I didn't say all the courses but some are relevant to the need of the industries. More important is the attitude of the vocational students themselves. They were trained in certain skills but they don't want to work in that particular field.

In addition to highlighting the need for systematic planning and the improvement on the generic skills and general education in vocational education, the interviews have also identified and gathered some isolated and individual suggestions on the improvement of the system in general and its curriculum and delivery method in particular. This includes the need to engage to a great extent in performing research and development

in curriculum, teacher training, pedagogical techniques, planning, management and CGAC:

EPRDMy personal opinion is that we should go more towards sectoral planning. Meaning that instead of broadening the target for technicians and skilled workers being produced as for the Five Year Malaysian Plan, we should go and focus on specific industrial sectors. By doing these we would be able to capture the actual problems and priorities better.

The TAVED officials also believed that the vocational education system must reflect the realities of the workplace and should give its students CGAC:

TAVEDVocational education should provide strong grounds for people to be innovative. We should improve career counselling to focus on future working challenges and requirements like working in conglomerate companies. Working in a team, with less designation. They should be equipped with new thinking and also with some culture.

TAVED:..... In theory it was very nice. The Ministry of Education is making a serious commitment on careers guidance and counselling which is very important for the secondary vocational school leavers. Currently, each secondary vocational school was given a one full-time counsellor. The school should carry it out properly to ensure the students will get the benefit from it. I can't give any reaction now on how effective the careers guidance and counselling unit is to the secondary vocational schools. When the students are at school level, before they embark on technical and vocational training, they should be given a talk on careers by a careers guidance and counsellor. Through my experience, the school system don't gave me clear indications on what is really out there. What the right career is.

The data from the research indicates that CGAC in vocational educational system has been built mainly on a theory, or set of theories, of occupational choice and of the importance of self-understanding and self-concepts in the making of choices. The

theories of Super and others are reflected in the literature of careers guidance and in the way practitioners see and describe their task. Data from this research indicates that, while vocational stream students do indeed make choices on their own, it is totally inadequate to explain the process by which students come to enter various jobs. It must be recognised that choice, or the making of choice, is only one aspect or stage in a longer process, and that this stage is in many ways less significant in determining eventual outcomes than the others which come before and after it in the total process. CGAC, then, needs to be reoriented so as to take account of the whole process, instead of elevating one factor to a position of unrealistic importance.

That is not to say that CGAC should give up all concern with choices and with helping students to make them. So long as vocational stream students feel they have choices or decisions to make, it is right to attempt to help them to do this wisely. In doing so, however, those responsible for guidance should recognise the very small influence which their work is likely to have on choices. Although the schools' careers programmes were generally appreciated and thought to be helpful, there is very little evidence that provided the source of ideas or choices. According to one TAVED officer in most of the secondary vocational schools where they did so it was usually through careers libraries - what the study called self-service careers activities - rather than through careers guidance lessons. Nevertheless, the study does not argue that the concept of choice should be removed from the field of guidance. There is a need to broaden the concept of the way in which students come to enter varying occupations after school, so that choice is set in the context of the channelling which is part of schooling and of the limitations imposed by the labour market.

Closer attention should be paid to the aims of vocational education in Malaysia, which are still based on the premise that almost all students will enter jobs at the end of their courses and spend the greater part of their life in work. Students, it is maintained, should be helped to fulfil their potential, whether or not they are in paid employment and increased emphasis should be given to roles other than that of worker (Channon, 1983; Watts et al., 1981). In order to promote such developments it is anticipated that CGAC teachers would need to move from their present, relatively passive role in school life to take on a more central, co-ordinating function, in which they act as agents for innovation, provide more of a bridge between the school and the industries and become concerned with students' personal, educational as well as vocational development.

If this is done it will lead to a new understanding of the situation and needs of the vocational students going through the process. Students at secondary vocational school will be seen not simply as students who need to make choices or decisions, but as people subject to powerful determining forces. The main question for those involved in CGAC, therefore, will be not 'How can we help students to make choices?'; but rather the more open question; 'In what way can we be of help to student who are going through this kind of process?'. What is needed is a conceptual shift, a change of perspective, so as to take account of the totality of what goes on in the movement towards finding an occupation.

This implication is that vocational education and careers must be made more attractive and viable for students and CGAC teachers and others who help shape students' occupational choices must be enlisted to enhance careers guidance programmes.

10.3 Difficulties in Matching Skilled Manpower Demand with Supply

The projections for skilled manpower supply are based on feedback from formal training institutions. The agencies responsible for the various education and training institutions would take into account the projected intake of students and the capacity of the training institutions. On the basis of past attrition rates and the duration of the courses, it would be possible to project the output of each of the training institutions for the coming years (Sulaiman, 1991). Even after this has been done, there are some real difficulties to assess the full extent of skills development in Malaysia. Two of the technical and vocational education planners, therefore, recognise the limitation of trying to relate projected skilled manpower demand by detailed occupations with the output from secondary vocational schools by disciplines as follows:

EPRDSuch as engineering, many other courses at the vocational skill level cannot be directly related to the demand for particular occupations. There is a great degree of flexibility of vocational graduates fitting into a wide number of occupations.Err, some employers may look for specific academic knowledge or training. In other situations, employers may be less concerned with the disciplines taken by the prospective job seeker and instead look for personal qualities, such as motivation, communication skills, flexibility and ability to learn. I think, there is no automatic link between the vocational training received and the subsequent area of employment, when making skilled or semi-skilled level manpower projections.

TAVEDThe main thrust of vocational education reforms should be to reduce 'wastage' through minimisation of a mismatch between education and training outputs and job opportunities and through orientation of educational opportunities to the world of work.

Would the demand and supply imbalances in the industry be secured if the conditions impeding the optimal use of national manpower and

educational planning were rectified? Certainly, the situation would be improved if the conditions impeding the optimal use of national manpower and educational were rectified. For example, if there were adequate linkages between manpower and educational planning, secondary vocational schools would be better informed about manpower requirements of the economy. It would also be better if the national manpower and educational plans emphasised manpower issues of particular sectors because specific issues to each sector would be dealt with:

EPRDI realised that there was no close co-ordination between the EPU which is responsible for the manpower planning at macro level with the education and training institutions. The system we have now is that the skilled manpower parts are done by many agencies such as Ministry of Education, MARA, Ministry of Youth and Sport, Ministry of Human Resources, while the total manpower needed for labour in industry was planned by the EPU itself. In this case they are not sitting together in making a decision related to the manpower needs for the country. If all these agencies produce labour market information that could be used to give a better understanding on the nature of demand and supply of labour in industry. Basically the students' enrolments depend on the Ministry of Education capability. Furthermore, the Ministry of Education had provided for about 60 to 70 percent of the Malaysian estimated output of skilled and semi-skilled workers. Another thing that I can see is the mismatch between the job choice and the course attended by the vocational school leavers is quite high. I think this is because the students are not fully exposed to career information during the transition period in school. Therefore, most of them don't have specific aims about their career after leaving vocational school.

If we look at the education sector not just as a utiliser of high level manpower but as a supplier, then, the issues to be addressed become much wider. It is perhaps in this area that the greatest expectations have arisen with regard to the ability of manpower planners to tell the technical and vocational education planners for example, how many of various types of skilled manpower they would produce. As has already

been emphasised, it is very important to make clear to the educational planners that this is for the most part a false hope. Furthermore, on the education side, estimates of social demand for education and training are hampered by the absence of data on student aspirations. This kind of data is virtually non-existent. Again, as for the limitations of the techniques used for manpower forecasting, improved data systems (e.g., labour market information and occupational data) would enable the predictions to be more precise than the present situation.

Cultural differences from Western models would still exist, but there is no evidence that they really interfere with the Malaysia national planning. The system works well at the macro level and issues respecting inadequate linkages between manpower and educational planning and the limitations of manpower forecasting techniques are probably not unique to industry. Rectifying them would be an improvement but is unlikely to counteract problems in industry itself. Industry does depend on macro economic factors to some extent. That is, if shortages occurred at the macro level (e.g. decline in labour supply), it is likely that it would have impacts on industry, even though problems specific to a particular sector had already been fixed.

Balance between manpower supply and demand of skilled labour in industry depends at the national level on having manpower planning well meshed with vocational educational planning, but it is not seen as a vehicle for securing deficiencies of the structure and relationships in industry itself. There has to be a close partnership with industry in training skilled labour since industry is the main user of trained labour. One TAVED's officer agreed with this:

TAVEDIn fact the Technical Education Division in the Education Ministry has already initiated the use of personnel and experts from the private sector in conducting training in vocational schools. They have

organised joint training programme with the private sector to impart specialised skills. The response of the private sector has been quite encouraging. However, so far only Shell, for example, is conducting a specialised welding programme for the petroleum industry called Project LINK at Miri Vocational School. This kind of collaboration will help produce more skilled manpower required for specific needs by the industries. Beside this, the Technical Education Division is also establishing the National Education Council for technical and vocational education to review and further examine the selection of courses and programmes in the secondary vocational schools.

The data from the research indicates that the present arrangement for school-industry collaboration in the area of skills formation is unsatisfactory since most of the industry is not participating actively in the curriculum development of training establishments. The lack of such involvement means the training establishments are unable to obtain sufficient feedback. Likewise, secondary vocational schools, given their limited capacity in gathering and processing training-related information and the bureaucratic constraints that inhibit speedy responses, would continue producing outputs that are not in line with industrial needs. In order for the problem of manpower shortages to be solved or improved, planning both at the national and industry levels needs to work well and develop linkages between them.

10.4 The Persistence of Skilled Manpower Shortages in Malaysia

Educational planning in a great many developing countries has emphasised the importance of technical and vocational education. Provision for these types of education has been stressed in virtually every major document relating to educational development in Malaysia. In spite of growing demands for skilled manpower, however, the unemployment rate among graduates from vocational schools in Malaysia is at least as great as the rate among other school leavers.

The problem of persistent skilled manpower shortages in Malaysia lies with manpower and educational planning; either they have inherent limitations or the conditions required to make them work are lacking.

With respect to the limitations of manpower planning, the study supported previous findings in the literature that manpower forecasting techniques have some drawbacks, e.g. the difficulty of making precise projections of manpower requirements over long periods of time due to economic fluctuations, changes in technology and data inadequacies. Skilled manpower shortages which Malaysia is facing are good examples of the limitations of manpower forecasting techniques. For example, it is difficult for secondary vocational schools to respond effectively to industry's needs since they do not know how many and what types of graduates will be needed. Nor do secondary vocational schools know their graduates are found to be less satisfactory than they think they are. Moreover, this approach often neglects labour substitution possibilities on the demand side in response to relative costs. This argument was supported by one of TAVED's officers who believes that some employers in industry tend to like cheap labour instead of hiring qualified personnel, therefore their quality is low:

TAVEDOne of the objectives of the new vocational system is to give the students' opportunities to pursue higher education (e.g. polytechnic or university). The vocational schools offer very little practical content in their courses and that's why the vocational stream students frequently lack the practical skills required by the industry. This is why many local manufacturing industries prefer to employ un-skilled labour. The new workers then will undergo in-house training and be retrained to keep abreast with the new technologies and work requirements. This indicates the inadequacy of the vocational system to meet the growing need for skilled manpower. However, this does not happen in all industries, some of them take a reactive role rather than a proactive one in dealing with manpower shortages and their future staff needs. For example, instead of

investment in training, they compete with other firms for experienced staff by paying higher salaries and benefits.

The study also found that manpower planning based on experience of Western countries is seen by the technical and vocational education planners as inapplicable to developing countries due to differences in economics, politics and social values. As mentioned earlier, in developing countries like Malaysia, student enrolments are often determined by social demand and political pressures rather than by manpower requirements of the country and people having certain attitudes towards jobs. Therefore, plans were not followed. As a result, secondary vocational schools often end up producing graduates in fields which are not required by the job market and graduates have a tendency to choose an unskilled or semi-skilled jobs or a job perceived by society as prestigious. As one of the TAVED's officer said.

TAVED:The findings from the tracer study done by the Technical and Vocational Education Division (TAVED), indicated that most of the students in Building Construction, Machine Shop Practice and Welding and Fabrication courses are more likely to be unemployed than students from other types of courses. They are generally working as unskilled workers and ultimately engaged in doing work with other school leavers who have no vocational background. In these situations, I think they are exposed to a restricted general curriculum which should be considered a disadvantage, not only from the civic aspect but also from the industrial point of view.Essential to this problem is the need for vocational students to actually work in their chosen fields. Efforts should be directed towards the establishment of co-operate programme between schools and businesses where students would obtain guidance as well as practical.

Moreover, the way manpower and educational planning operates it is not geared to address skilled manpower requirements and supply in industry. That is, both manpower and educational planning models are designed to provide guidelines only at the macro economic level.

There is no evidence from either documents or interviews that indicates that national economic and social development plans have sought to deal with detailed skilled manpower issues in industry. The existence of a national economic and social development plan which states that education and training will be provided according to the needs of individuals and labour market demands is clearly seen by the technical and vocational education planners as making it unnecessary for them to develop specific policies and plans to deal with skilled manpower requirements and supply in industry. This view allows them to think that there is no problem because skilled manpower requirements have already been taken care of by the national manpower and educational planning models.

With respect to the conditions required to make plans work, the study found that some conditions necessary for effective manpower and vocational educational planning have not been met. For example linkages between manpower and vocational educational planning are inadequate. Although the documents indicate that manpower planning has been employed as the link between socio-economic planning and educational planning since the 1960s, in practice manpower and educational plans are developed concurrently by separate government agencies. According to the interviews with the technical and vocational education planners, manpower planning has been used as a general indication of needs in educational planning in some fields of study only. Moreover, manpower and educational planning have worked to different priorities. As stated earlier, the main objective of manpower planning is to identify manpower requirements of the country, whereas the objective of educational planning have included meeting manpower requirements as only one of three objectives.

The success of any manpower development plan depends to a great extent on the information available. The information required on the supply side includes, for example, student enrolment, CGAC schemes, factor rates, student costs, drop-out rate, teacher student ratios. The demand side requires information on manpower requirements for various sectors and at various levels of occupation in industry, incentive offered to employees, technology used in industries, national economic growth expected in various sectors, labour force mobility, sectoral occupational and geographical, rural-urban migration trends, data for analysis of productivity and retention rates. However, this is in conflict with what one of the EPRD's officers had to say on this issue:

EPRDThe major problem of the current industrial and vocational training system in our country is that they are not fully able to meet the demands of industry due to our inability to cope with the rapid changes of industrial technologies on the industrial structure of the economy. Again, I think it's lack of effective planning and development of vocational programme.The reason why the manpower projection is always not accurate, is because there are difficulties in assessing the stock of industrial manpower in the country especially in the absence of complete and reliable data on the output of local and private institutions. For example, the total output from vocational schools is only 80% out of the total enrolment. This is because there are students who change to other schools or quit from school. Furthermore, about 90% of this total output of students will find a job and the rest of them will further their study.It always appears that the vocational schools leavers are employed in jobs that are not related to their training.

The data from the research above indicates that current labour market information is deficient because of small coverage; patchy information at the local level. Furthermore, the effectiveness of the dissemination of the labour market information to potential users leaves much to be desired. Although the flow of labour market information among government departments is generally good, much

would have to be done to increase the information flow to the users who make various decisions in the labour market. For example, reliable and timely data and labour market information for manpower and educational planning are lacking. This has resulted in large errors of manpower projections in previous national plans. This is clearly acknowledged by one EPRD officer who mentioned that:

EPRDI understand that the principal task of the EPU is to ensure that the nation's educational and training institutions supply the right number of people.Err, to fulfil this function the EPU must generate information on the manpower requirements or demand and compare this with the information on the likely supply of manpower (by education). More accurate labour market information has to be widely disseminated to school leavers through careers guidance and counselling programmes.I think the information must flow in both directions and be extended to workers, students and families.

The data from the research indicates that certain skills could be in short supply as a result of imperfect labour market information. Students and new entrants into the job market may have misconceptions about the current status of the market and the long-term career possibilities in the industry. A bias against 'blue-collar work' may often influence the occupational choice of young entrants into the labour market. Shortages of skills in industry do not filter down to the students coming into the labour market to help them make appropriate career decisions. Currently, there is low preference among students and parents towards skilled and other technical occupations. A major effort to reduce the bias against such occupations will be the development of a career path for blue-collar work that is parallel to the existing academic based career development. More importantly, the secondary vocational schools are inadequately informed about the status of the labour market with regard to skills they train, and therefore fail to adjust the curricula to the changing conditions of the labour market.

Although most technical and vocational education planners said that this problem has been resolved, some contend that this problem still persists. Good quality labour market information and the effective dissemination of that information to schools is a prerequisite for the effective utilisation of the manpower planning approach that operates on market signals.

Another problem of the current vocational educational system in the country is that it is not fully able to meet the demands of industry due either to its inability to cope with the rapid changes of industrial technologies and the industrial structure of the economy, or lack of effective planning and development of vocational programmes. The rapid technology changes in industry, especially the introduction of computer numerical control (CNC) production processes, electronics, robotics, miniaturisation, automation and wide range of future technology, have raised the technical requirements of jobs. Most secondary vocational schools still use outdated machines and their output is often seen as irrelevant to industrial needs. There is a need to strengthen the linkages between vocational training and technological change. This change is often difficult for the vocational curriculum which has traditionally emphasised basic vocational skills and is less cognitive in nature. The curriculum must necessarily now move to a different level of academic emphasis and heed the call for higher levels of abilities in the cognitive domain, and to a certain extent also the affective domain. A typical comment was made by one of the TAVED's officers:

TAVEDYes, we want the quality of our product. To me, there are two methods. One of them is to equip all the secondary vocational schools with the same standard equipment and machinery as in the industry. However, this is difficult to implement because the cost will be very high. So, what we can do in this aspect is to upgrade the machines or equipment so as to become more high-technology. Another thing that we can do is to upgrade

our vocational workshop by purchasing the 'prototype' high technology machines that have the same function as the production type that being used in the industry. As for the second method to fulfil the demand of the industry, it is through industrial training programmes. Here, the students will be exposed to the real world of working and they have a chance to use all the sophisticated and high technology machines.

The secondary vocational schools also lack the capacity to produce new skills. Courses offered by many secondary vocational schools are too basic and not job-specific. For instance, a machinist or a welder from vocational school is trained in basic machining or welding but not in precision and complicated welding. The slow response of secondary vocational schools to new skills can account for shortages in critical skills, such as CNC programming, precision machining, skilled draughtsmen and technicians in CAD techniques and robotics.

When asked about linkage with industries, all the TAVED officers were not happy with the efficiency of schools' interrelationships with industry. Only a few Secondary Vocational Schools have some form of non-formal organised training and specialised short courses conducted outside normal school hours for the public, also serving the surrounding industries. For example, Ipoh Secondary Vocational School has an advantage because of its location in the urban, commercial and industrial area and it has provided these facilities even before the intervention of TAVED through its policy of 'Time Sector Privatisation' launched in 1992. To further develop a closer relationship with the industrial sector and strengthen industry-education ties, TAVED is in the process of establishing the National Advisory Committee (NAC) for technical and vocational education. These NACs are effective vehicles to gauge the needs of industries with regard to the technical workforce and to review and further re-examine the selection of courses and programmes, including

curriculum development. A technical and vocational education planner made a comment on this:

TAVED I think this is the time where a permanent advisory committee should be set up in all localities for each major industry. It serves as conduits for feedback information to help in decision making on the intake of students according to labour market conditions, updating of the curriculum and reviewing the vocational training programmes. So far, a similar programme about an advisory committee have been operating for some time for the Marine Engineering Courses in the Ungku Omar Polytechnic. In the future, efforts will be made to establish management Advisory Committees for all vocational schools.

EPRDI think all the secondary vocational schools expect industry to adopt a more 'open' policy and provide clear information on their manpower needs. To improve school-industry interaction in the light of producing better educated and skilled vocational graduates for industry: First, school and industry should undertake curricular reviews jointly to develop more practically-oriented courses in line with industrial requirements. Err....Secondly, emphasis should be placed on work experience placements for vocational students. Lastly, career fairs should be supported by stronger publicity and employer participation.

Close links between industry and Ungku Omar Polytechnic for example, have obvious benefits in providing resources in the form of skilled staff, materials and equipment, as well as possible financial support from industry. Furthermore, better rapport between schools and industry would facilitate invaluable employment feedback in the development and review of vocational programmes.

Most of the technical and vocational education planners maintained that secondary vocational school should be more sensitive to the 'outside' world. Industry needs to adopt a more 'open' attitude to provide clear information about their workforce needs. This was

thought to be important as vocational schools were generally slow to respond to industrial demands, partly due to bureaucratisation. Apathetic attitudes by industry and secondary vocational schools were thought to be inappropriate amidst the growing importance of identifying skills requirements in industry to support future industrial expansion in Malaysia.

Industry's ability to attract employees is also affected by the poor image of industry resulting from the limited career prospects and negative social attitudes towards careers in blue-collar jobs. The data indicates that some of the technical and vocational education planners said negative social attitudes have contributed to the problem of manpower shortage in industry. Some of the vocational students prefer government employment to private sector employment because the former is perceived to be more prestigious and secure than the latter.

10.5 Conclusion

Manpower and educational plans which are developed concurrently are part of Malaysia's five-year national development plans. Both are intended to address manpower requirements and supply at the macro economic level. Manpower forecasting techniques used to project manpower demand and supply for the national economy have some shortcomings of a similar nature to those described in the literature. A major shortcoming is the difficulty of making accurate projections of manpower demand and supply over long periods of time due to economic fluctuations, changes in technology and inadequacies of data. Recognising its shortcomings, Malaysia has adapted its manpower planning approach in the light of experience to make it

work effectively. However, the mismatch between skilled demand and supply still persists. The study shows that technical and vocational policy-makers and planners say that differences in economic, political and social values have made manpower planning models based on the experience of Western countries unsuccessful at matching manpower supply and demand in developing countries, including Malaysia.

The reasons for imbalances between manpower demand and supply for skilled manpower in industry may rest to some degree with national manpower and educational planning but to a rather greater degree the problem is specific to features of industry itself. Manpower and educational planning at the national level are ineffective unless policy-makers and planners, providers as well as employers take a planning stance with respect to the diagnosis of the way their own sector is working and act to remedy the problems they find.

Manpower planning is a complex process. The success of manpower planning in Malaysia requires effort and relationships between organisations. It is very easy to speak about a manpower planning and training process. To overcome the problem, clear objectives, policy decisions and careful implementation are necessary. If enough resources are planned for education and the training system, then the success of manpower planning will depend on the Ministries responsible for education and training. However the data from the research indicates a lot of inadequacy in the secondary vocational school system - the incentives, the resources, students' expectations, and curricula. The vocational programmes should be well structured according to the needs of industry. CGAC is very necessary especially in early stages, to mould the students towards the conditions and circumstances of their ultimate industrial working environment. Furthermore vocational students may subsequently develop more

realistic expectations of their chosen careers. More collaboration is required between the secondary vocational schools and industry. School-industry co-operation provides the means to expose secondary vocational school students to the commercial and industrial environment through work experience placements to enhance their educational experiences and employment prospects.

The technical and vocational education planners perceived better interaction between secondary vocational schools and industry as being important for several reasons. First, from an academic viewpoint, better exchange of information on skills needs in industry would contribute substantially to the development of courses which are more attuned to industrial demands. Secondly, better interaction would increase the opportunities for student work experience placements. This would provide students with more practical knowledge, as well as develop their contacts with future employers. Finally, direct contacts with employers would also improve student knowledge of opportunities in the job market. From an industry standpoint, employers would benefit from clear information on courses offered at secondary vocational schools and the availability of students for future recruitment.

Finally, the existing skill delivery system has been able to meet some of the industrial skill requirements; there is strong indication that it has not been able to meet the manpower demand of industry satisfactorily. The secondary vocational schools are not demand-driven, that is, their output has not matched actual industrial requirements.

CHAPTER ELEVEN

MANPOWER NEEDS AND OCCUPATIONAL EXPECTATIONS OF VOCATIONAL STREAM STUDENTS IN MALAYSIA

CONCLUSIONS AND RECOMMENDATIONS FOR POLICY

11.1 Introduction

This final chapter presents the conclusions of this thesis and highlights four areas pertaining to this investigation. Firstly, an overview of this research project is presented to set the context for further discussion. Secondly, a summary of the research findings is offered. The recommendations for policy are then presented in section three based on the important findings of this investigation. This chapter concludes with a discussion of the areas considered worthy of further research. It is hoped that the recommendations provided would be useful to planners and policy-makers faced with the task of relating the development of vocational education with employment objectives and the needs of the economy and society.

11.2 Overview of the Research

The purpose of the study was fourfold: first, to concentrate on the extent to which students of vocational schools are aware of national manpower needs and how their occupational expectations relate to them; second, to explore the extent to which factors other than manpower needs may affect students' occupational expectations; third, to investigate the role played by careers guidance in the vocational school in helping students to make their occupational decisions and finally, to acquire an understanding of the role of the

technical and vocational education planners in relation to the way manpower and educational planning has developed and operates. Related to these was the desire to determine the implications of the findings for the planning and policy of vocational education in Malaysia.

The research subscribed to the human capital theories which suggest that investment in manpower needs and occupational choice is a critical factor in influencing national economic growth and development. It is widely accepted that manpower planning is critical for the economic development of a country because it is useful in identifying manpower needs and providing guidelines for educational planning for the national economy. Estimated employment targets forecasted by planners to meet the economic needs of the country often clash with the needs and capabilities of students who are seeking employment in the labour market. In most of the developing countries where the education system does not include all school age young people, there is a high percentage of secondary school graduates joining the labour market. These students who are joining the labour market face the problem of career choices. Sometimes their occupational preferences tend to be far removed from the demands of their country's manpower needs, resulting in surpluses and deficits in certain occupational categories.

11.3 The Summary of Research Findings

Important results arising from the research are summarised and evaluated to highlight the contribution of this thesis to the advancement of knowledge and understanding. There are four major

findings which can be drawn from the thesis. Each key finding is highlighted in this section.

11.3.1 Findings of the Manpower Planning and Students' Occupational Expectations Analysis

The study found that vocational stream students were not aware of the national manpower requirements although there were efforts made by the schools to help them prepare for future occupations and fill the manpower requirements of the country. The secondary vocational schools were not effective in enabling the students to be aware about conditions of employment in the labour market. All students from the Engineering Trade, Commerce and Home Science courses had little knowledge about the country's skilled manpower needs.

The study found that vocational stream students' expected occupations were not in accordance with the national manpower requirements. Vocational students' occupational expectations were unrealistic. The data from the research indicates that occupational expectations of vocational stream students were affected by their aspirations. Students tended to place priority on their own individual needs rather than being influenced by the occupational structure of the country. Also, vocational students' occupational expectations were not determined by considerations of national manpower needs. The government emphasised its highest priority as developing human resources in the sector of Production which very few of the vocational stream students expected to work in. Students' highest priority was to work in the Professional and Technical category. The government least wanted its labour force to be engaged in this sector. Students' ranking of critical occupations was not in accordance with those of the national manpower needs. If the vocational stream students continue

to make those types of decisions, the country will experience a shortage of manpower in the Production category.

11.3.2 Findings of the Other Factors Affecting Students' Occupational Expectations Analysis

The study found that the aspirations, both educational and occupational of vocational stream students revealed optimistic expectations for the future. Except for job security and parents, other factors that affected students' choices of expected occupations were not dominant. Students' occupational expectations were negatively related to their fathers' present occupations. Although some students did not know what they wanted, and although some were unaware of their parents' hopes for them, the overall picture was clear. Students and parents aspired very highly in terms of both educational and occupational status hierarchies.

The study also found that school leaving decisions are compounded by parental values relating to the appropriateness of further education for their male compared with their female children. Certainly, the influence of parents is strongly evident in any decision made by vocational stream students concerning a decision to stay on at school or to go to work and gender-related factors may be operating. For female vocational stream students, parents were most important in the decision-making process, but they tended to be more influenced by their peers at this age than were males. There may be important developmental implications in these trends in terms of gender-related susceptibility to peer pressure. The study found that male vocational stream students were more likely to exhibit extrinsic reasons for job expectations than were vocational stream female students who showed a marked preference for people-oriented aspects of

occupational expectations. Finally, the vocational course specialisation was a significant determinant in selecting the expected occupations of vocational stream students.

11.3.3 Findings of CGAC in Secondary Vocational School Analysis

The provision of careers and labour market information for vocational students was another important area of investigation in this study. CGAC units are generally regarded as a focal point in the provision of careers and labour market information for students (ROGET, 1991). The study found that all vocational stream students were aware of the existence of the CGAC Unit at their school. However, only a few visited them. This result is consistent with the poor level of contact between students and CGAC teachers. The major reasons for students' visits to the CGAC unit were concerned with further education, recruitment purposes and relevance of academic qualifications to jobs. Most of the vocational stream students valued careers information obtained from the school library, careers seminars, and meetings with employers during the industry tour were very important. Careers and labour market information provided by the CGAC teachers were not found to be particularly useful in assisting students to make informed career decisions. Students preferred more detailed careers information to enable them to make better career decisions.

By highlighting the importance of the opportunity structures in the process of occupational socialisation and by arguing that young people are able to exert very little control over their entry into the labour market, Roberts (1968, 1977) initiated an important debate about the role of CGAC. One of the main aims is to examine

contextual effects on occupational and educational aspirations of young people growing up in contrasting labour markets. The evidence from the research data supports the idea that local contexts, or 'opportunity structures', are important.

The study found that the CGAC in secondary vocational schools has a very limited role and should be centrally concerned with assisting individuals with the opportunity structures to which they have access. Yet school-leavers today are entering local markets which have undergone many changes since their parents left school (Law, 1981). The lack of job opportunities in some areas means that, from an early age, some students develop a general awareness that certain careers will involve geographical mobility. CGAC offers the potential for providing a perspective on the possibilities which may exist outside the local market. While local opportunity structures help shape career aspirations, occupational horizons are also affected by in-school relationships and experiences. An important aspect of CGAC is to provide students with an alternative and wider vision of the world beyond the school gates.

The study indicates that the expectations of the vocational stream students in the secondary vocational schools are too high with regard to the salary levels anticipated after completing their courses. An orientation to the possible future career paths through the provision of careers and labour market information can also be important in improving the students' knowledge about their career prospects. Equipped with better academic knowledge and other relevant skills, students can therefore develop better expectations of the realities of the labour market and can equip themselves accordingly to become productive workers in industry.

11.3.4 Findings of the Technical and Vocational Education Planners' Role Analysis

The technical and vocational education planners concurred with the view that the objectives of an educational plan based on manpower considerations cannot be realised unless the labour market allocates manpower appropriately. Furthermore, most of them maintained that differences in economic, political and social values have made manpower planning models based on the experience of Western countries unsuccessful at matching manpower supply and demand in Malaysia. In general, it is the flexibility of the labour market which prevents the emergence of a critical imbalance between supply and demand. Critical imbalance arises in the presence of constraints which limit the mobility and the supply of labour. A balance between manpower supply and demand in any sector would be improved by having manpower planning at the macro level well meshed with educational planning, and by developing linkages between two levels of planning: the national and industry level.

The study found that most of the technical and vocational education planners argued that the process of manpower planning and development in many countries has proven to be rather problematic in determining a straightforward conversion of certificates into jobs. Nonetheless, in the Malaysia context, it is imperative that the Ministry of Education, the Ministry of Human Resources, the Public Services Department, the Economic Planning Unit and the Manpower Administrative and Planning Unit (MAMPU) undertake a joint review of student intakes and output in the local and overseas educational institutions to determine the trend in manpower development to ensure a sufficient skills threshold to support the growing economy. On the supply side, it is also considered essential that more assessments on skills needs are undertaken jointly by governmental

agencies, schools and employer organisations to better understand the skills requirements in industry. Employers' organisations should support this exercise which can be important in ensuring that national economic progress is not affected by a shortage of skills. More collaboration is required between the schools and industry.

The study found that all the technical and vocational education planners appeared to support the current system of vocational education to continue its dual role of taking academically weak students preparing for skills occupations as well as taking academically able students preparing for further and higher technical-vocational education. They emphasised the main aspects of internal operations pointing out the needs for better quality students to be selected for admission, more academic teachers and better-trained vocational teachers to cope with new curricula, new teaching methods and new technologies. While most were happy with the facilities provided, major improvements on central contract practice is essential to ensure smooth running of the vocational programmes. The schools in the industrial areas were found to be more successful in fostering co-operation with industries and had established linkages through their own initiative long before any new policy and directive from the central office. Additionally, most agreed that the value of vocational education to equip their students for further education could be enhanced by integrating more academic subjects like mathematics, and sciences into existing vocational education.

Regarding the present capacity of the country's vocational education commonly they pointed to the promotion of a single, clear and coherent policy and systematic planning on vocational education by TAVED. They recognised that vocational education has always had to respond to the changing demands placed on them by government, industry and society, thus welcoming the new strategy to improve and expand secondary

vocational schools. A proper balance between vocational education, generic skills and general education was considered very important for curricular improvement. The interviews also revealed some isolated and individual suggestions from the technical and vocational education planners on the need to carry out research and development and dissemination of information on curriculum development, teacher training, pedagogical techniques, management of vocational education, and CGAC. Recommendations arising from these conclusions form the subject of the next section.

11.4 Recommendations for Policy

I would like to propose the following recommendations which hopefully will be valuable for educational, manpower and industrial policy makers in developing policies consistent with national interest. An important concern is to ensure perpetual socio-economic progress of the country to ultimately achieve the government's vision of Malaysia becoming an industrialised nation by the year 2020. The recommendations are:

1. The study demonstrates that the highest sources of careers information were from the school library, where they obtained their information on occupations. The study recommends that the existing school libraries should be improved and incorporate occupational information so that each student, regardless of their course and ambition, will be able to better equip themselves with careers knowledge. To do that will require attractive packaging and more efficient dissemination of the information about opportunities and qualifications essential for various types of occupations to the students. The information on the labour market should be

comprehensive and regularly updated to be of use especially to job seekers.

2. The study found that vocational stream students' expected occupations which were not in accordance with national manpower needs. To close the gap, Malaysia should recognise the importance of promoting academic education as well as career-oriented education for secondary vocational school students since the majority of these students are potential labour market users. The study recommends that there should be a diversified system at secondary vocational education with opportunities for combining vocational education with industrial training. There should be more flexible rules enabling them to move between and within education and work. Education authorities should give incentives to industrial, public and private bodies to formulate practical projects with pedagogical value on which students in secondary vocational schools can work. This will have consequences for the organisation and content of secondary vocational school courses. All young people should have a real chance of mixing work, education and training in accordance with their abilities and needs.

3. The study demonstrates that CGAC teachers were not the main sources of information for vocational students to obtain labour market information and the country's developmental needs. The study makes some suggestions about what CGAC in secondary vocational schools should be attempting to do, in the light of the findings. The technical and vocational education planners - who have responsibility for developing policy and making arrangements for CGAC in secondary vocational schools should be aware of this responsibility.

- a) Male and female students displayed different values and attitudes to work. Female students seemed especially person-oriented, male students more oriented to extrinsic rewards such as wages and security. The influence of differing patterns of sex-role socialisation can again be understood. Rather than perpetuate this pattern of orientation, however, the school through CGAC services needs to adopt more active strategies for examining the world of work and exploring factors intrinsic to work-roles rather than helping to maintain stereotypes by channelling female students into, for example, service roles and male students into managerial and professional roles, via curricular advising and its own careers guidance and counselling services.

- b) The role is to help students to understand the process they are going through, and the situation in which they find themselves. Students should be enabled to see how the schooling process and their performance in it has already conditioned their future, and how the nature of the labour market and the structure of opportunities will influence what happens to them later on.

- c) Another role is to help vocational stream students to make choices or to develop expectations in a flexible and open manner. Part of the emphasis of CGAC in vocational schools has been on decision making, helping students to reach decisions about the future. Given the present extremely difficult employment situation, however, it is a mistake for students to make clear and definite decisions at an early stage about what they are going to do on leaving school. The data from the research has shown that many vocational students are keen to make decisions about what they are going to do. In these

circumstances they need to be encouraged to look at different possibilities, to consider alternatives and to keep an open mind to the future. CGAC teachers, therefore, need to help students to achieve self-awareness and the knowledge of the nature of occupations, but at the same time attempt to discourage them from setting their minds too narrowly on one particular occupation.

- d) The study recommends that CGAC teachers should be trained, to have a good knowledge of the labour market and the manpower implications of the various development plans proposed by the government. CGAC teachers should persuade the students to understand the importance of choosing certain occupations over others without reducing individual choices.

- e) The provision of career and labour market information for vocational stream students should be given a higher priority by schools. CGAC Units are generally under-budgeted and understaffed and this inevitably affects their performance. Increasing the awareness amongst the secondary vocational schools and industry communities about the importance of careers and labour market information for students is crucial. This awareness can be developed through careers seminars, careers workshops and industry visits organised jointly by the CGAC units and employers. The critical formulae for a successful activity is a sense of interest and commitment from all the parties concerned to make the collection and dissemination of labour market information to vocational school students more educational and beneficial.

4. Vocational curriculum should reflect the particular needs of industry - it should be monitored and updated periodically. Intensive programmes of specialised training according to the development needs of the economy should be introduced toward the end of the school year. Such curriculum design will influence the short-term supply of manpower needed urgently to fill up certain critical occupations. Therefore, governmental bodies should work closely with industries to effectively implement such programmes.

5. The study found that secondary vocational schools have not received adequate feedback on the quality of vocational leavers from employers. To ensure that accurate and timely feedback is obtained, vocational schools need better feedback mechanisms, i.e. develop closer links with industries by inviting them to serve on curriculum planning committees, meet employers in the business setting, observe students at work sites, and keep regular contact with vocational school-leavers.

6. Continual investment in vocational education is crucial to produce sufficient skilled manpower to support industrial expansion in Malaysia, particularly in the development of heavy industry such as automobiles, integrated cement and steel. Admittedly, education is a cumulative asset which requires nurturing from the elementary level. Malaysia is one of many countries which has achieved a near-universal enrolment rate in primary education. However, Malaysia's enrolment rates in secondary education and beyond are comparatively low. In view of Malaysia's "Vision 2020", more efforts should be directed to increasing student participation in technical and vocational education to develop sufficient low-level skills (i.e. semi-skilled and skilled workers) and middle-level skills (i.e. technical assistants) in the country. A vocational education profile of the

workforce can be a critical factor influencing national industrial progress.

7. It is necessary to evaluate the existing methods of testing and testing standards to ensure their appropriateness to the objectives and context of the vocational education offered. The Ministry of Education should make plans to build an upgrading and skilled trade test centre in the industrial area. It is very important that this centre should have very close links with industry and follow up the development of courses and trade testing in other vocational training centres. Continual monitoring of the industrial trends and technological changes and their implications for manpower requirements is vital for effective manpower planning to close the gap between the demand and supply of skilled labour.

8. With regard to conditions required for optimal functioning of the manpower and vocational educational planning, the study found that linkages between manpower planning and vocational educational planning are inadequate. This is partly because manpower and vocational educational plans are developed concurrently and manpower plans have not fully been used as a basis for educational planning. To correct the situation, better articulation between manpower and vocational planning should be sought. This will necessitate collaboration between the agencies responsible for manpower planning and vocational educational planning respectively. Such collaboration might also be a good way of rectifying conditions which impede the optimal use of manpower and vocational planning.

11.5 Areas for Further Research

Before making any suggestions for future research, it is important to highlight some of the problems encountered in the research as well as the limitations of the study. The questionnaires and interviews were conducted by the researcher himself who is a vocational school-leaver. The vocational school-leaver status of the investigator has been known to influence the results. It is difficult to imagine what effect the vocational school-leaver status of the researcher may have had.

Due to constraints in time and finance, the study was limited to three secondary vocational schools. Four hundred and twenty Form V vocational stream students were selected to complete the preliminary questionnaires. Participants for the in-depth interview were twenty eight Form V vocational stream students from the three secondary vocational schools, three careers guidance teachers from each school, two selected TAVED officers and two EPRD senior officers.

The analysis of manpower needs was limited to seven occupational categories and entailed analysis of employment targets in The OPP2, 1991-2000. The categories are: Professional and Technical, Administration and Managerial, Clerical, Sales, Service, Agricultural and Production.

Despite the limitations mentioned above, I felt that the study generated a substantial knowledge base that could prove useful to decision-makers and planners for making some informed decisions regarding manpower planning and students' occupational expectations in the country.

Several issues emerge from the data requiring urgent and serious investigation.

1. It would be interesting to study a group of secondary vocational school leavers who have qualifications in a particular technical field but are not using them. Consideration could be given to those factors the students see as influencing their choices related to different vocational courses and the respective influences on career choice.
2. The importance of well stocked, well run, attractively presented and accessible careers information services cannot be overstated since, the research findings demonstrate that although there were efforts made by the secondary vocational schools to provide the students with information on occupations, the sources of information from the schools were inadequate. An investigation examining the nature of careers information dissemination in secondary vocational schools, technical schools or polytechnics should be conducted so as to examine, for example, why in spite of the efforts, the students still lacked information about the labour market.
3. More research is needed on the group of vocational stream students who are getting higher educational qualifications and to explore whether their course then excludes them from the job they want.
4. A final suggestion for further research would include an ethnographic study of a technical school and to examine the influences on career choice in a specific educational setting.

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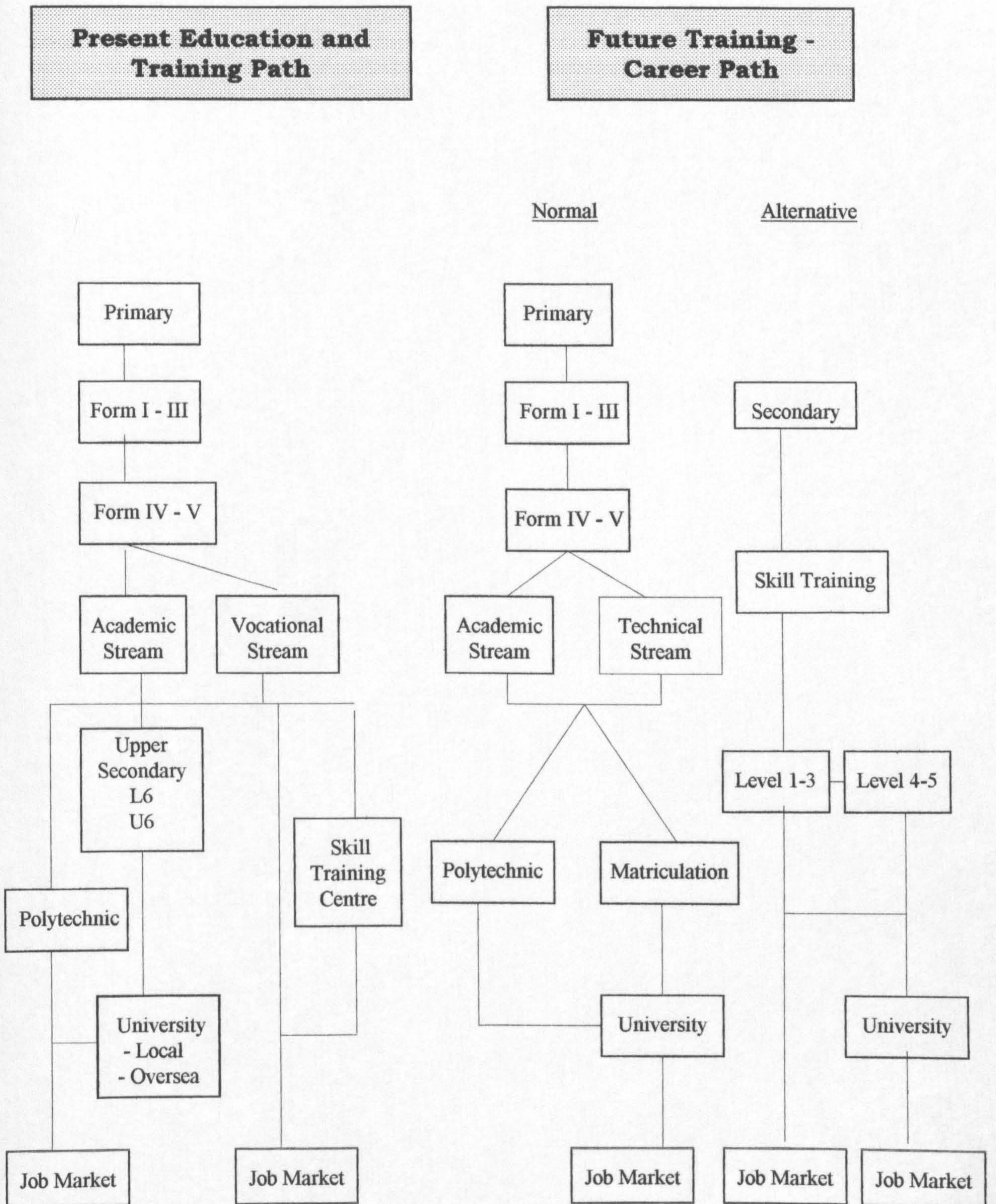
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Appendix 1

POSSIBLE CAREER PATH OF SKILL TRAINING



Appendix 2

STUDENT QUESTIONNAIRE

This questionnaire is concerned with issues relating to your occupational expectations. Specifically, this study seeks to find out about the occupation you expect to reach in the future after you have completed your education. Your views are important.

Please answer them as accurately as you can. The name of your school and your answers will be kept confidential.

Instruction:

The preliminary questionnaire requires two types of answers. Please tick the statement which you agree with and filling in the required information in the space provided. Please answer clearly the questions which require your explanations.

1. **Name of your school:**

.....

2. **Form and Course (please specify):**

Form V

3. **Your age as of 1st January 1996:** years

4. **Sex:**

A. Male

B. Female

5. **Home Address:**

.....

6. **Which of the following ancestry groupings do you belong:**

- A. Malay
- B. Chinese
- C. Indian
- D. Others (please specify)

7. **What is the present occupation of your father. If retired, state the last occupation held.**

Name of occupation:

or not working

8. **Your father's monthly income. If retired, state the last income per month before retirement.**

- A. Less than RM 200
- B. RM201 - RM500
- C. RM501 - RM1000
- D. RM1001 - RM2000
- E. RM2001 - above

9. **What is the present occupation of your mother. If retired, state the last occupation held.**

Name of occupation:

or not working

10. **How much interest do your parents take in your education and future career?**

- A. A great deal
- B. A fair amount
- C. A little
- D. Not at all
- E. Don't know

11. **What job do you think they would like you to do when you complete your education?**

.....
.....

12. **What do you intend to do next year?**

- A. To continue education
- B. To get a job
- C. Work part-time
- D. Study part-time
- E. Don't know

13. **Which sector would you like to work in when you leave school?**

- A. Government Service
- B. Private Sector
- C. Self-employment
- D. Family Business
- E. Other (Please specify)

From Question 14: What are the reasons for your choice?

.....
.....

14. What occupation do you expect to get after completion of your vocational education?

Occupation:

15. Below is a list of selected occupations. Tick the appropriate box that tells you how much you value each of these occupations.

	Value Highly	Some Value	No Value
A. School teacher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Protective service workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Electrical and Electronic technician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Mechanical technician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Accountant and Auditor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Surveyor and assistant surveyor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Machine tool operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Technical salesmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Production supervisors and general foreman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Production manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K. Plumber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L. Welder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M. Carpenter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N. Computing machines operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O. Motor mechanic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P. Refrigeration & Air-conditioning technician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q. Others (please specify)			

16. To what extent do you agree with the following statements?

	Agree	Disagree	Don't know
A. The vocational course that you attend will be useful in relation to your future job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Your choice of occupation which you expect to get must be closely related to your current vocational education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. People with vocational education qualifications are finding it hard to get jobs that are commensurate with their qualifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. The list below provides the sources of information where you can obtain details about different jobs and types of work (such as working conditions, salary, changes of promotion). Tick the sources of information which you have used:

Sources of information:	YES	NO
A. Newspapers and magazines obtained from the school library	<input type="checkbox"/>	<input type="checkbox"/>
B. Teachers/school	<input type="checkbox"/>	<input type="checkbox"/>
C. Careers guidance teachers	<input type="checkbox"/>	<input type="checkbox"/>
D. Friends	<input type="checkbox"/>	<input type="checkbox"/>
E. Parents	<input type="checkbox"/>	<input type="checkbox"/>
F. Brothers and Sisters	<input type="checkbox"/>	<input type="checkbox"/>
G. School newsletters	<input type="checkbox"/>	<input type="checkbox"/>
H. Radios and televisions broadcast	<input type="checkbox"/>	<input type="checkbox"/>
I. Visits to firms organised by the school	<input type="checkbox"/>	<input type="checkbox"/>
J. Talks by different occupational holders organised by the school	<input type="checkbox"/>	<input type="checkbox"/>
K. Other (please specify)		

For Questions 18 to 22 please refer to the instructions below.

The statements below are factors that may influence your occupational choice. You are asked to state the importance of these factors in influencing your expected occupational choice.

There are three choices which you can select for each statement. Choose one and tick the appropriate box.

	Very Important	Important	Not Important	Don't Know
18. The starting salary of a particular job is important in influencing my choice of occupation which I expect to get.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. The security that a particular job offers is important in influencing my choice of occupation which I expect to get.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. The location of the organisation or the firm which I plan to work is important in influencing my choice of occupation which I expect to get.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Chances of promotion that a particular job offers is important in influencing my choice of occupation which I expect to get.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. The significant of the particular job to the national future is important in influencing my choice of occupation which I expect to get.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. **Who has influenced you most in making your career decision? (Please tick all those appropriate)**

- A. Youth employment officer
- B. School teachers
- C. Careers guidance teachers in the school
- D. Parents
- E. Brothers and Sisters
- F. Those who are already in the field
- G. Friends
- H. Through reading
- I. Do not know

24. **Which of the following are important in relation to getting a job? (Please number the answers in order of priority)**

- | | Order of priority |
|-----------------------------|--------------------------|
| A. Qualifications | <input type="checkbox"/> |
| B. Knowing the right people | <input type="checkbox"/> |
| C. Personality/Attitude | <input type="checkbox"/> |
| D. Good careers advice | <input type="checkbox"/> |
| E. Help from your parents | <input type="checkbox"/> |
| F. Element of luck | <input type="checkbox"/> |
| G. Race | <input type="checkbox"/> |
| H. Gender | <input type="checkbox"/> |

25. **What advice and support has the careers guidance teacher given you?**

26. How useful do you find the advise and support given by your careers guidance teacher?

- A. Very useful
- B. Useful
- C. Fairly useful
- D. Neutral
- E. Not so useful
- F. Don't know

27. In what way do you think the careers advice you received could be improved?

.....
.....

28. Have you had the opportunity to talk to any professionals in your field?

- A. Yes
- B. No

29. Have you attended any talk on career?

- A. Yes
- B. No

If Yes: Who organised that talk?

If No, Go to Question 31

30. How do you think your knowledge or understanding of the career and/or industry in question has been improved by your attending such talks?

- A. Excellent
- B. Good
- C. Neutral
- D. Fair
- E. Not at all

31. Is there any other information you would like to add?

(Please specify.....
.....
.....

INTERVIEW SCHEDULES

These semi-structured interviewed schedules were only used as a guide. Interview schedules were translated in Malay during each interview according to ability and educational level of interviewee. All information reported in this interview were held in strict confidence. No information from this source was published in such a manner that data relating to any individual can be identified. In addition no information reported in these interviews were released to any authority in a manner that would identify the individual as the source of information.

INTERVIEW SCHEDULE 1 - FORM V VOCATIONAL STREAM STUDENTS

Background Information

1. What were your reasons for going to secondary vocational school?

2. What course are you now doing?
Probe: Why did you decide to do this course?
3. What do you intend to do after the fifth form?
4. What sort of educational qualifications are you hoping to get eventually?

Career Expectations

1. When you left school did you have a clear idea of the kind of work you would like to do?
Probe: Did you expect to be able to get a job fairly easily or did you think it would be quite difficult?
2. Do you think going to secondary vocational school gives you a better chance of career prospects?
Probe: If Yes, Why?
Probe: If No, Why?
3. What are you looking for in a job?
Prompt: Is it the pay, status, convenience and working conditions or are you looking for something more than this?
Prompt: Do you think that anything else is of great importance?
Probe: I would be interested to know what you think about different jobs and occupations.
4. What career would you like to pursue after graduation?
Prompt: What kinds of jobs do you think you would want and be happy to do?
5. What job would you dislike doing? Why?
6. Which sector would you like to work in when you leave school? Why?

7. Would you like to do the same job as your father or mother? Why?
8. How different do you think your life is going to be from that of your parents?
9. Do you think getting job is mainly luck or up to you or due to other problems and difficulties?
10. How confident are you of getting a job in your current field of study within 12 months after your graduation?
11. What do you think is the most important factor affecting your chances of employment in your current field?
12. Do you think there is a problem of skill shortages among vocational graduates now? Why?

Careers Advice

1. Did you get advice and/or information about career possibilities before you applied for vocational education?

Prompt: If Yes, Where did you get advice and/or information from?

Prompt: If Yes, What do you think of the career advice and information you received?
2. While you were at school did you get any advice on what you should be doing when you left school.

Probe: Where you advised to apply for any particular educational course?

Probe: Where you advised to apply for any particular job?

Probe: Who gave you this advice?

Probe: How helpful has this advice been?
3. Do your careers guidance teachers offer you any advice on the choice of a job?

4. Do your parents offer you any advice on the choice of a job?
5. If received advice from father/mother, have you more or less done what your father/mother wanted you to do or not?
6. Looking back on it is there any advice that parents/teachers could have offered you but didn't?
7. Looking back on it who gave you the most helpful advice?
Probe: Why?
8. Looking back on school what would have improved your employment prospects?

INTERVIEW SCHEDULE 2 - CAREERS GUIDANCE TEACHERS

Background Information

1. In what year was your Careers Unit established?
2. How many career advisers do/will you have?
3. What do you think are the problems facing school leavers?
4. How many school leavers this year went into:

Further Education
Employment
Unemployment
5. What type of careers guidance advice do careers guidance teachers provide for students?
6. What are the practical strategies employed by careers guidance teacher with regard to careers counselling and advising?

7. Is the careers library/section adequately stocked with respect to: a) handout and pamphlet materials; b) higher education information and prospectuses; c) job vacancy information; d) local careers news; e) information for minority interests; f) decision-making, awareness-raising (self and vocational) and job-search materials.

Relations with Students and Occupational choice

1. What proportion of your Form V students had advisory interviews with your advisers last year?

2. What are the reasons for Form V students meeting with your advisers?

3. Do you think the services of your careers guidance units could be improved?

Probe: If Yes, What would you like to improve on?

Prompt: What might be the constraints in making improvement to your careers guidance unit?

4. Do you have any monitoring system of student use of your careers guidance unit?

Probe: If Yes, What is the monitoring system?

5. Are careers guidance teachers familiar with the type of occupational choice students are making regards to employment?

6. Please give me a general view of the kind of choices students make in choosing their job/occupation careers.

7. What type of jobs are they entering.

Probe: Why?

8. What was important to them about a job?

9. Are there any differences in the occupational choices Malay, Chinese and Indian youths are making?

Probe: If Yes, Please specify the type of jobs each racial groups are likely to enter.

10. What are the important factors you consider to be influencing the student choice of careers?
11. Do students have a narrow field of occupational choices?
Probe: If yes, Why?
12. What do you think the future holds for many vocational school leavers who cannot secure suitable jobs?

Relations with Careers Guidance Unit and Industry

1. What are your students being informed about the current employer's needs for specific qualifications, experience and/or skills?
2. What do you think of the current information exchange and/or flow between employers and schools regarding specific industry needs?
3. What do you think schools could do to improve this information exchange?
Prompt: What do you think might be the constraints?
4. What do think employers/industry could do to improve this information exchange?
Prompt: What do you think might be the constraints?
5. What role do you anticipate your careers guidance unit might play in this information exchange?
6. Do you think there will be a problem of skill shortages among the vocational graduates within the next 3 year?
Prompt: If yes, Please specify the reasons and give me three types of skill shortage.

7. Did you organise any meeting between employers and your students last year?

Probe: If yes, Specify types and frequency of meeting.

Prompt: Please specify the latest employer meeting with your students.

Size of the company? Sector? Area?

9. Please give me the purpose of these employer - student meeting?

Prompt: Do you think your students have benefited from attending these meeting last year?

Prompt: Do you think the employers have benefited from attending these meeting last year?

Professional Skills

1. What in-service opportunities exist for your careers guidance teachers to develop and update their skills.
2. What opportunities exist for your careers guidance teachers to keep up-to-date with the industry and commercial job market and changes in the type of jobs on offer?
3. What additional forms of support do careers guidance teacher need in order to undertake their job effectively?

INTERVIEW SCHEDULE 3 - TAVED OFFICERS

1. What do you think about the vocational programme now, both quantity and quality?

Prompt: Are they adequate or inadequate to the needs of the industry?

Prompt: If inadequate, how do you see them changing to meet the needs of the industry?

2. How are vocational education enrolment targets derived?
Prompt: Is the number of enrolments based on manpower plans?
Probe: If yes, what are details of plans?

3. How easy or difficult has it been for TAVED to attract students to enrol in vocational education? Has enough guidance and counselling been provided to students regarding their career choices?
Probe: If you are having difficulty, what actions could be taken to ensure that there are adequate numbers?

4. How satisfied are you with the vocational graduates?
Prompt: Are they well prepared for the job?

5. In the present Malaysian job market what proportion of vocational stream students do you think will be employed in their respective fields within 12 months after their graduation this year?

6. What mechanisms do you have in place to obtain feedback from the vocational graduates?
Prompt: Have you ever done any follow-up studies of vocational graduates?
Probe: What are the results?
Prompt: What is the importance of follow-up studies in vocational educational planning?

7. Do you think there is a problem of skill shortages among vocational stream students now?
Probe: Please specify the reasons for your response.
Probe: If Yes, Please specify three types of skill shortage.

8. What do you think of the current balance of vocational stream students in meeting the respective skills demand and needs in Malaysia now and in the future?

9. How do you think the Careers Guidance and Counselling Unit is regarded by the vocational school students in general?

Prompt: Has enough careers guidance and counselling been provided to students regarding their career choices?

10. If recommendations were to be made as to how vocational education and training could better meet the national manpower needs, what would you recommend?

INTERVIEW SCHEDULE 4 - EPRD OFFICERS

1. Have you in the past six months had your attention drawn to a question, problem or issue concerning the relationship between the needs of the workplace and products of the technical and vocational education system?

Prompt: If so, what was it and what action was taken to address it?

2. Do you have any long-term plans or policies to deal with manpower requirements of the industry in the next five to ten years?

Prompt: What are they and how were they developed?

Probe: If there are no plans, why not?

Prompt: Who has responsibility for ensuring that vocational schools are responsive to industry's requirements?

3. To what extent has manpower planning been used as a guideline for technical and vocational education planning in Malaysia?

4. Are there any issues in the educational system concerning vocational education which are of concern to you?

Prompt: What would be the most important of them?

5. What in your opinion are factors which would avoid the applicability of Western models of manpower planning in developing countries and what are factors contributing to the success or failure of manpower planning in Malaysia?