STUDENT PERCEPTIONS ON CAREER EDUCATION: A CASE STUDY IN AN INTERNATIONAL SECONDARY SCHOOL

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<u>ABSTRACT</u>

This dissertation examines the factors that influence the career choice of students and evaluates the existing career education program in an international secondary school.

The study reviews the research on career education in five countries and contrasts the findings with results from a project carried out in pilot government schools in the Emirates. The data gathered from the interviews of nine students revealed 29 factors, from a list of 75 factors identified in the literature, which influenced the students' career choices.

Less than a quarter of the subjects in the study articulated a significant parental influence. It appeared that they were more comfortable discussing their career choices with their extended family, friends and teachers. The Alumni responses seemed to highlight receptiveness to new experiences and open-mindedness as two critical qualities for success in University.

The study presents a draft policy and a summary of ten recommendations for consideration by the management of the school in which the study was carried out.

Chapter 1   INTRODUCTION

1. 1   Definition Of Career Education

The foundations for the growth of career education were provided in the early part of the

twentieth century by several thinkers. Dewey, for instance, in his seminal book

Democracy and Education (1916, pp. 368-369), argues that from a practical and

philosophical perspective, the goals of education must be tied to career education.

Calling for educational reorganization, he states:

> ..the key to the present educational situation lies in a gradual reconstruction
> of school materials and methods so as to utilise various forms of occupation
> typifying social callings, and to bring out their intellectual and moral content.

While different definitions for career education exist, a number of theorists have argued

that it is part of a lifelong learning process that should help students with decision making

and goal-setting skills, problem solving skills, developing aspirations, beliefs, values,

aptitudes, interests, personality characteristics, job-seeking and job-holding skills, and

knowledge of the world of work. (Avent, 1988, p. 61; Tolbert, 1974 quoted by Zunker,

1994, p. 3; Harris, 1999, p. 9).

Career education as used in this study is best defined in the words of Jesser (1976, quoted

by Zunker, 1994 p. 207):

> Career education is essentially an instructional strategy aimed at
> improving educational outcomes by relating teaching and learning
> activities to the concept of career development.

The two words that are significant in this definition are instructional and strategy.

'Instructional' relates to the teaching and learning activities that have traditionally been

undertaken by schools. Researchers such as Herring and Harris use this idea to

distinguish career education from career guidance. According to Herring (1998, p. 10) and Harris (1999, p.5) career education is a school-based educational provision, whereas career guidance, headed by guidance professionals, is usually provided externally by the career service. The word 'strategy', as it is commonly used refers to a carefully developed plan of action to deal with a particular challenge. Andrews (1980, quoted in Mintzberg and Quinn 1996, pp. 46-49) defines strategy as 'the pattern of decisions in a company that determines and reveals its objectives, purposes, or goals, and produces the principal policies and plans for achieving those goals…'. Avent (1988, p. 6) has reinforced the importance of this sort of consciously intended course of action by stating that career education is 'undertaken by teachers as an integral part of the curriculum'. The consequences of this will be expanded upon in section 2.4 titled "Issues and Implications for Management".

Harris (1999, p. 34) observes that career education has made a 'surprisingly speedy entry into the school curriculum' since the 1960s, although it has remained a contentious concept in some circles. The need to include another programme in schools already struggling to cope with an overloaded academic agenda, has contributed in part to this contentious aspect. According to Zunker (1994, p. 211), 'some critics have argued that instituting career education in elementary school will actually tend to reduce career options, since many students will feel pressured to make career decisions earlier in their school career'.

Currently there are numerous career education organisations in the United Kingdom (UK) and United States of America (USA) funded by the government. There has been a

revival of interest in career education in recent years. For instance, in the foreword to a

SCAA publication, Dearing (1996) states that:

> In the 1995 Competitiveness White Paper *Forging Ahead*, the Government
> made a commitment to provide support for schools on the development of
> pupils' decision-making, action-planning and negotiating skills.

A recent DfEE Publication (Witt, 2000) outlines the UK government's commitment to

provide the best start for every young person on page 29:

> Career-related learning in schools often begins in the primary sector and
> involves schools working to raise their pupils' aspirations and understanding
> of society and the world of work. Schools will be helped in this task by the
> new framework for Personal, Social and Health Education, and the requirement
> to study Citizenship, both of which overlap significantly with career-related
> learning.

1. 2   Background Of TIS

My study was conducted at The International School (TIS), which is an elite, private

international school owned by a prominent business family in the United Arab Emirates

(Emirates). It was established in 1991 and has enrolled over 1700 students from over

seventy nationalities in the past three years. TIS offers the International Baccalaureate

(IB) Programme for secondary students in this region.

In 1997 the school made a decision to pursue 'Accreditation for Growth' through the

protocol developed by the Middle States Association on Secondary Schools in the USA.

In May 1999 the school achieved accreditation by the Middle States Association of

Colleges and Schools. The 'Accreditation Team' listed five recommendations. The fifth

recommendation was as follows:

> The Validation Team recommends that a well defined programme of school-
> wide pupil personnel services, staffed by qualified faculty, be established

at the earliest date, i.e., counselling, guidance, pastoral and special needs. Following this recommendation, a Lifeskills programme was established for students in the middle school in September 1999 and addressed the 'pastoral and special needs'. Although called 'Lifeskills' to reflect TIS's culture, the programme for students in the middle school was built largely on the framework established in the UK for Personal and Social Education (PSE) lessons. However, there is no formal career education programme throughout the school. In spite of establishing positions for Heads of Years mentioned in section 4.7, the recommendation about 'counselling and guidance' might require further consideration by the management of TIS.

TIS has a career adviser who is obligated to complement an almost full teaching load with the additional responsibility of being the Head of Year 12. The career adviser, serving in this position since 1998, sees her role in the school as that of a higher education adviser. She facilitates students' application processes by arranging information to be delivered to them. Using a record book she devised herself, she is also expected to provide students with advice on preparation for this stage of university application. As part of this dissemination of information, she also coordinates meetings between visiting admissions personnel and the students at the school.

When I worked at the school, my primary role was teaching science and physics in the secondary school. I also served on the pastoral committee that developed the Lifeskills programme and coordinated meetings with the Alumni of the school.

1. 3   Challenges And Needs

Although career education has been widely researched, there has been a dearth of

material that reflects the perspectives of the students. In the introduction to her recent

book, Harris (1999, p. 15) notes that:

> One of the most striking silences of the book is that of the young person
> on the receiving end of careers education. In order to do justice to their
> experiences and views, a separate book is required.

My objective in doing this research in TIS was to try to begin addressing this void in the

literature by studying the issue from the students' perspectives. What they say and what

they would like to see taking place in schools will be investigated in this study. The

factors that have aided and hindered the career choices of nine students at TIS will be

examined. The study has its inherent limitations as the following caveat of Simon and

Associates (1992, p. 41) demonstrates:

> Finding the underlying bases of human choice behaviour is difficult.
> People cannot always, or perhaps even usually, provide vertical accounts
> of how they make up their minds, especially when there is uncertainty.

The challenge here was coping with a myriad of ways to understand and explain what

might be interpretations of subjective events of individuals' career choices. Nevertheless,

I have attempted to classify student responses and examined these classifications to

identify relationships between them in Chapter 4. According to Scott and Usher (1999, p.

85) this approach initiates 'the process of understanding those relationships in general

terms, so that they have credibility beyond the boundaries of the case being examined'.

Some of the findings that are of relevance to institutional policy and practice are outlined

here. However, the small number of subjects in the study and the inherent subjectivity

mentioned above has limited the generalisability of the study.

Nevertheless, I have indicated below some pertinent reasons why this study is particularly relevant today. The old industrial economy based on assembly-line production has given way to a new knowledge-based economy that relies more on globalization and efficient dissemination, access and analysis of information. Baroness Blackstone (quoted by McGavin 1999), outlining the guidance services that were "at the heart" of the UK government education and employment policy, highlighted the need for 'bringing about a learning society'. With the significant paradigm shift globally, from an industrial era to the information era, other challenges include:

- the need to effectively utilize the overwhelming information available through published books and the World Wide Web for decision-making,

- increased costs of education and the need to make rational use of available resources to integrate academic skills (compulsory education on core subjects) with technical skills (vocational education),

- the need to impart flexibility and competence to cope with rapidly changing skills required in an increasingly technological workplace,

- the call for greater levels of accountability and improvements in the quality of schooling.

1. 4   Specific Aims Of The Study

Looking back at my own experience in teaching and learning in schools for over a decade and constantly delving into educational research, I have come to believe that the deliberate development of career management skills could form part of a school's curriculum in preparing the students for adult life.   To examine this notion, I seized on the opportunity of my Master's dissertation to speculate further that career education might also be a useful strategy for enhancing student effectiveness.

This study seeks to examine the factors that influence the career choices of nine students at TIS. The specific aims of this study are:

- to identify the key factors that influenced the career choices and goals of the students at TIS,

- to evaluate the career education programme in the school,

- to outline the issues and implications of this study for management, and

- to arrive at a draft framework for an overall policy on career education at the school.

This research is an attempt to critically examine the questions above within the framework of the Collaborative School Management model proposed by Caldwell and Spinks (1988). The study recognises as Guba (1990 quoted by Denzin and Lincoln, 1994, p. 5) contends, that reality 'can never be fully apprehended, only approximated'. For data analysis, the study employs the questions for assessment outlined by Miles and Huberman (1994, pp. 277-280, Appendix J).

Habermas' caveat on the drawback of pursuing a positivistic paradigm, or a simple cause and effect study, was a useful guiding principle. According to Habermas (1970 quoted by Easterby-Smith, et al. 1994, p. 78): 'Human interests not only guide the way we think, and the structure of work and authority, but they also condition the way we enquire into, and construct our knowledge of, the world'. Since I had undertaken this case study while being part of the institution, I cannot make claims to being totally objective. Bassey (1999, p. 43) observes that researchers, who regard themselves as potential variables, 'may use personal pronouns'. Following this observation by Bassey and Golby's advice (1994, p. 27), I acknowledge any unintentional influence that my presence may have had on the perspectives that I share in this research. For this very reason, I have not restricted the writing 'to the cold third person' style.

1. 5   Synopsis Of Chapters

In the Literature Review (Chapter 2), the definitions and implications of the critical terms used in the study such as career education, pastoral care, student effectiveness, strategy, self-efficacy and policy are given. A brief summary of various thinkers and their contributions during the early twentieth century that led to the development of career education is provided in section 2.2. It is suggested here that a strong basis exists for the development of the career education programme in a secondary school based on the theories of Erikson (1963) and Havighurst (1972). Following the Collaborative School Management model proposed by Caldwell and Spinks (1988), some issues related to policy formulation have been raised there. However, issues that relate to policy

implementation and accountability could not be addressed because they are beyond the scope of the present study.

In the Chapter on Methodology (Chapter 3), I have outlined the reasons for choosing a case study approach and elaborated on why I have used semi-structured interviews to gather data. Here, limitations of the methodology and data analysis are indicated, including ideas that I would have liked to pursue in this study.

In the following Chapter (Chapter 4) on Findings and Analysis, the students' comments about their career choices and their career education perspectives are reported. Using a matrix, I have analysed the responses of the subjects and grouped their responses under three domains: personal, social and institutional. Several issues are discussed including the large number of factors that the subjects have mentioned. I continue to report the findings in section 4.6 titled, Implications for Management. The need for a school-wide policy for career education is discussed here. Additionally, I have constructed two matrices using the information provided by the students along with my proposal to act as a bridge between the current reality and what the students would like to see.

The key findings of the study are reported in the Conclusion. Also suggestions for further investigations have been made after acknowledging the limitations of this research. I have listed a summary of recommendations that the school might examine based upon student suggestions. A draft policy document for career education is included as Appendix A. Some ideas for staff discussions based on the suggestions of Avent (1988) prior to writing the policy are listed in Appendix B.

Chapter 2   LITERATURE REVIEW

2.1   Some Definitions

The term 'secondary school' indicates students in the age groups of eleven to eighteen, typically in Grades 6-12 (Key stages 3 and 4 in the UK). The meanings of other key terms used in this study such as career education, pastoral care, vocational guidance and student effectiveness need clarification. Although it has been difficult to find acceptable definitions of these terms across cultures, an attempt has been made to describe them here.

Hoyt (1978, quoted by Herring 1998, p. 20) provided a comprehensive definition of career education. According to Hoyt, career education includes:

> All experiences by which individuals acquire knowledge and attitudes about self and work and the skills by which to identify, choose, plan, and prepare for work and other options constituting a career; an effort aimed at refocusing education and the broader community in ways that will help individuals acquire and use the knowledge, skills, and attitudes necessary for each to make work a meaningful, productive, and satisfying part of his or her life.

This definition not only defines career education operationally but also suggests how teachers, community and the school can help students. Teachers can foster learning and the acquisition of skills by students. Senge (2000, p. 557) during his conversation with Howard Gardner mentions that 'the skills and sensibilities, the attitudes and qualities' a teacher plants as seeds today will significantly influence the individuals who will shape our future. The task of enabling students to lead productive lives is not confined to just teachers and schools, but involves the 'broader community'. According to Herring (1998, p. 205), an awareness of the 'social causative factors' is critical to the students'

career decision-making process because it allows them to 'verbalize these feelings, become more self-aware and, eventually empower themselves'. Schools as organisations are providing a direction and preparing the students for their future careers. Rosenfeld and Peng (1980, p. 36) have articulated how institutions can affect the career decision-making process through: '(1) encouragement of teachers, (2) counselling, (3) the kinds of peers a student has, (4) the quality and "normative climate" of the school, and (5) tracking and courses'.

Career education is also related to the concept of career development. According to McCormac (1991) career development refers to a 'lifelong learning process' that empowers the students in the exploration of 'occupational and educational opportunities' and 'planning their career'. Students often start thinking about their future professions or careers when they are teenagers. It is therefore important to help them understand the issues related to career education better so that they can plan forward and make informed educational and occupational choices during and after school. Avent (1988, p. 8) refers to this state of awareness as 'vocational maturity' and recommends that all teachers must be involved in this process. Doty and Stanley (1985, p. 4) quote several researches to conclude, 'the sooner students are able to see themselves in a career development process, the sooner their present education will have more meaning'.

The origin of career education can be traced to the development of vocational guidance programmes in both the UK and the USA. In some countries such guidance is provided by external career services as Harris (1999, p. 5) stated. Gous and Jacobs (1985, p. 1) define vocational guidance as:

> …a term that is generally accepted and encompasses assistance
> and guidance to students in the choice of their school subjects,
> post school courses and a career.

At various times such vocational guidance has also been associated with motivating underachieving students who may have been marginalized from the mainstream school curricula. However, the domain of career education has a much wider scope. It encompasses not only the interests of vocational guidance but also fosters knowledge about work and enables all students to learn required skills for successful entry into the world of employment. Wringe (1988, quoted by Harris 1999, p. 129) articulated this perspective and cautioned against limiting the scope of career education:

> Vocational education has been constructed in narrow, technicist
> ways which takes as central, knowledge for work (skills, attitudes
> and competencies to be learnt) rather than knowledge about work…

Career education sometimes has been included as part of a 'Pastoral Care and Personal-Social Education' (PSE) programme as used in the UK. The quotation referenced in section 1.1 from the Connexions Service (2000) highlights this significant 'overlap'. Career education clearly is more restricted in its usage than a PSE programme, although student success is the desired outcome in both cases. According to the report published by Her Majesty's Inspectorate (1988 quoted by Best, 1995, p 5), 'pastoral care ... should help a school to achieve success'. According to Harris (1999, pp. 133-134) traditionally the success of schools has been judged by 'efficient and effective management of staff and resources, and by high standards of performance of staff and pupils measured through academic success'. Harris argues that this movement from success of the school to success of the individual students and their career choices is critical to the career

education curriculum because success is primarily concerned with the individual students and their careers rather than the success of the whole school.

As educators, we also desire that the students' learning in school is effective. In this study I have used effectiveness to mean 'attainment of accepted objectives' as used by West-Burnham (1990, p. 98) and suggest that three criteria listed below be used as a reliable measure of student effectiveness. Some research (Doty and Stanley, 1985, Lapan et al, 1997) has indicated that a comprehensive career education programme in the high school increases students' confidence levels and motivates them to:

Criterion 1: Earn higher grades,

Criterion 2: Experience the school in a more positive atmosphere,

Criterion 3: Derive a greater satisfaction in learning.

These three criteria are very important because they integrate well with some of the overall aims of education.

Words such as guidance, counselling, and pastoral care have a considerable overlap and their scope has been outlined above. However, they can trigger varied, sometimes negative responses in the minds of readers, and are frequently associated with motivating underachieving students as mentioned earlier. Nevertheless for the benefit of those in multicultural settings such as in the Emirates, 'career education', being a neutral and comprehensive term, will be used throughout most of the study, as it embraces these three concepts.

2.2   A Brief History Of Career Education And Current Trends

Most of the research on career education has been done in the UK and the USA where the governments have well-established programmes. Surprisingly, I have had to rely on a few primary sources because of the relatively small amount of literature available on the subject of career education at the secondary school level. Zunker (1994, pp. 4-15) traced the growth of the career education movement in the USA from the days of Dewey in the nineteenth century. Dewey (1916, p. 369) affirms that when schools actively include vocational education in their curriculum, they enrich the school life of the students and make it 'more active, full of immediate meaning and connected with out-of-school experience'. Harris (1999, pp. 138-139) lists key dates in career education in UK during the twentieth century.

At the turn of the twentieth century, Merrill developed a plan for students to explore industrial arts programmes and encouraged the need for vocational guidance. According to Zunker (1994, p. 5) his innovations at this time bear a strong resemblance to 'the career-education movement of the 1970s'.   Meanwhile, Parsons (1909 quoted by Zunker 1994, p. 6) provided a conceptual framework for facilitating the career choice of students. The three-part formulation of Parsons, outlined in his book *Choosing a Vocation* (quoted by Herring, 1998, p. 4), integrates the personal characteristics with social characteristics and is elaborated on in the next section. Although this proposal was made almost a century ago, I believe the framework is still valid for structuring the career education programme in schools. Further impetus to deliver organised guidance in USA was

provided by Elliott during the first national conference on vocational guidance in 1910, in which he emphasised a need for competent school guidance personnel.

At this time, German psychologists were developing measurement devices, and Terman of Stanford University popularized testing in 1916 by introducing the term 'intelligence quotient'. The beginning of World War I hastened the measurement movement because of the sudden need to classify and train a large army of people. Strong developed the first interest inventory in 1927, and this provided career advisers with a vital tool for linking test results with occupational choices.

In the following two decades, two schools of counselling were making their impact on the career-guidance movement. First, Williamson published his views on directive counselling with *How To Counsel Students* in 1939. According to Zunker (1994, p. 9) this was in many respects an extension of Parsons' formulations. According to Williamson (1965, quoted by Davis, 1969, p. 104), Parsons was a pioneer in the practice of counseling and was therefore 'credited with being the father of vocational guidance'. Criticising simplistic directive counselling procedures, Rogers published *Counseling And Psychotherapy* in 1942. The book underscores Rogers' conviction that the potential for enriching oneself lies with the individual. Rogers (1942, p. 436) concludes that among other changes, the client "of his own choice selects the 'more weighty satisfactions', around which he can integrate his activities, implements his new choices by means of positive plans and acquires the confidence in his ability to direct his own life". He developed his ideas further and shifted the focus away from tests, cumulative records and counselors to the learner and conditions that can facilitate learning in the book *Freedom*

To Learn in 1969. According to Rogers (1969, pp. 105-304), the aims of education should be the facilitation of learning and development of individuals who are open to change. According to West-Burnham, (1990, p. 101), this significant learning model stresses the importance of 'learning by doing, sharing, reviewing and applying'. In the twenty-first century, these Rogerian principles enunciating the concepts of interpersonal relationships, human development and significant learning assume added significance because they attempt to develop the whole person. By focusing on personal change and growth, students will be able to cope with the challenges mentioned in section 1.3.

Independently, the governments in the USA and the UK also contributed to the growth of the career guidance movement. In the USA, starting with the Smith-Hughes Act in 1917, various federal grants were established to support a nationwide vocational guidance programme. Marland's comprehensive proposals in 1971 provided a significant impetus to career education in the USA as an adequate response to the charge that contemporary educational systems were not 'adequately preparing youth for work'. According to Zunker (1994, p. 14), this new educational philosophy recommended a plan that would 'specifically address career development, attitudes, and values in addition to traditional learning'. Another significant landmark at this time was the establishment of the National Occupational Information Coordinating Committee (NOICC) in 1976 that was supported by four federal agencies. The NOICC (2001) identifies twelve 'High School Student Competencies and Indicators' clustered in three categories: Self-Knowledge (3 competencies and 13 objectives); Educational and Occupational Exploration (5 competencies and 31 objectives); and Career Planning (4 competencies and 26 objectives).

In the UK, the Employment and Training Act in 1973 made it a statutory obligation on the Local Education Authorities to provide career services. However, careers education has oscillated from being a core subject to a 'Cinderella subject' in the UK. Some observe that after the Educational Reform Act (1988) and the emphasis on the National Curriculum and its assessment, teachers have had to cope with teaching the ten subjects including their routine marking and enormous paperwork, and therefore it was convenient to have optional career education. West-Burnham (1990, p. 93), referring to this more as a management issue than as an issue of managing change, argues that 'schools have problems in responding to new demands because those demands are viewed as being additional to … existing activities'. Recognising the importance of career education for lifelong learning, the Education Act (1996) and the Department of Education and Employment circulars 5/97 and 5/98 quoted by Harris (1999, p. 139) made it mandatory for schools to provide a programme of career education for students from the age of 13 upwards. Consequently the public profile of career education in the UK has changed.

The importance for providing comprehensive career education programmes can be understood from a staggering 60% increase in the budget from £ 84 million to £ 134 million earmarked in The Competitiveness White Paper in 1994. To quote Fisher (1994):

> The dowdy creature, which got its statutory suit of clothes when the 1973 Employment and Training Act made local authority funded services mandatory, is now being serenaded with recognition and extra funding.

The UK government's support service for young people titled Connexions, that became operational from April 2001, has been the most recent initiative 'to help raise aspirations, support progression and remove barriers to learning' (Witt, 2000, p.1). Like Elliott's

initiative in 1910 mentioned earlier, the heart of the Connexion service is a personal adviser.

Research on career education has presented different findings based on where the studies were undertaken. Miller et al (1991) made the following observation after a study made in the USA to foster career development in 1990. Almost 65 % of those surveyed said that if they had to start their careers anew, they would get more information about their strengths, preferences, and goals in relation to work and potential career choices. This study prompted the NOICC to develop the National Career Development Guidelines to foster career development at all levels from kindergarten to adulthood. The guidelines served as a blueprint to state schools and organizations for constructing 'comprehensive, competency-based career guidance and counseling programs'. These guidelines have been used by several states in USA to benchmark standards and improve their existing programs. The study also found that it was important to find ways of helping parents become involved in their children's career development because they 'continued to be a major influence'. The Australian generation study seemed to suggest that parents were highly influential in their children's educational development (Beare et al, 1989, p. 3). The study concluded that 'the parent's satisfaction with the school appears to be an accurate gauge of how well the student is performing'. According to Lowe et al (1997, p. 36), in their research done in Alberta (Canada), students' post-secondary preferences are strongly influenced by both 'parental encouragement' and 'parents' socio-economic status'. The study also concluded (ibid, pp. 63-64) that traditional gender differences were also shaping the experiences and plans of several students and it was therefore vital for educators to 'seek more effective means of helping all students to…consider a greater

range of career opportunities'.   Another significant finding of the study was that 'attitudes can also facilitate or inhibit the achievement of goals, although it was important to account for how institutions shape these attitudes'. In the newsletter (OnQ) of the Qualifications and Curriculum Authority (1999, p. 4) a study commissioned by them in secondary schools found that career plans are the most important factor in students' GCSE choices. Forty percent said that their teachers had the greatest influence on their subject choices; only 20% of the respondents attributed their career choices to family members and 11% to their career advisers in schools. Interestingly with regard to peer influence, only 2% said they copied their friends' choices and 8% said they were most influenced by their friends. In a project launched in the Emirates by the National Admissions and Placement Office (NAPO) in 1999, it was observed that 75% of the students relied overwhelmingly on their families for advice in academic and career matters, and that the influences of the peer groups were minimal. Further, in that sampling, only 25% of the parents had completed secondary education and fewer had attended college. Following this study, it was decided that NAPO will continue to offer a program to assist Grade 10 students in the pilot government schools for making the right choices about their academic programs and careers. The program would help the students learn about issues such as personal values, self-awareness, decision-making and career opportunities.

2.3   Personal, Social And Institutional Domains

As educators one of the question that arises is whether it is possible to prepare students better to cope with the complex factors that influence career choices. According to Bandura (1997, p. 422) 'In making career decisions, people must come to grips with uncertainties about their capabilities, the stability of their interests… the identity they seek to construct for themselves'. It is clearly a difficult decision to make and perhaps it is this complexity that impels some students to procrastinate or drift into a career path rather than make informed, active choices. According to Harris and Grede (1977, quoted by Doty and Stanley, 1985, p. 2), this is 'one very serious problem in career choice – the mismatch between student aspiration and ability'. Can schools address this dilemma, which can have significant financial repercussions? For example Munro (1997) referring to the situation in Scotland says:

> It has been estimated that pupils embarking on the wrong course or job
> may be costing the Scottish economy millions of pounds a year.

Doty and Stanley (1985, p. 8) report that 'teachers in grades five through twelve expressed a need for more emphasis on integrating career education into the regular classroom'. Referring to college preparation, Kasky (1999) observed that 'it may help to begin the process for kids as early as third grade'. Rysiew et al (1999, p. 426) recommend that career education 'should begin as early as elementary school for all students'. On the contrary, Hodkinson (1995), quoted in section 4.3, and other researchers Zunker (1994, p. 211) quoted in Section 1.1, have cautioned against pressuring young students into making their 'correct' career decisions when they leave school. In light of these diverse viewpoints, Parsons' three-part formulation delineated

below is considered to be relevant. According to Parsons, it is vital to address three

issues:

> Issue 1:   A clear understanding of yourself, aptitudes, abilities, interests,
> resources, limitations, and other qualities;
>
> Issue 2:   A knowledge of the requirements and conditions of success,
> advantages and disadvantages, compensations, opportunities,
> and prospects in different lines of work;
>
> Issue 3:   True reasoning on the relations of these two groups of facts.

Issue 1, similar to the self-knowledge category identified by the NOICC, relates to the

factors in the personal domain of the students, including home influences. Issue 2,

similar to the educational and occupational exploration category of NOICC, relates to the

factors in the social domain, which includes influences by the community. In my view,

by assisting the students in their career choices, schools can address Issue 3 appropriately

because it pertains to the relationship between 'these two groups of facts'. That would

make up the institutional domain. The third issue also relates well with the career-

planning category identified by the NOICC. Fisher and Griggs (1994, p. 5), proposed

that reflecting on these three domains, personal, social and institutional, will give

students an opportunity to find out which factors 'facilitated or hindered their career

selection'. In section 3.6 I have outlined how I clustered various factors into these three

domains.

Over the years I have observed that two factors, passion for learning and recognition of

developmental changes during adolescence, can help teachers remain focused on the

goals of education and encourage student achievement. Eccles et al (1993, quoted by

Herring, 1998, p. 95) reported that 'adolescence represents a period of change frequently

confounded by confusion and uncertainty'. At the secondary school, Erikson's (1963)

identity versus role confusion (11 to 18 years) and Havighurst's (1972) developmental

tasks of adolescence (ages 12 to 18 years) outlined by Zunker (1994, pp. 182-185) are

also of relevance. Being perceptive to these developmental changes is important because

any assistance with regard to the choice of subjects, fields of study or occupational career

while guiding students at this critical stage of development will be beneficial to the

students. Erickson (1968, quoted by Herring, 1998, p. 96) stated that 'occupational

choice has a tremendous impact on teenagers' sense of identity'. Echoing similar ideas,

Gous and Jacobs (1985, p. viii) have suggested that:

> …the person who accepts the responsibility of guiding the child
> towards a career shall take into consideration the different
> developmental phases that the child experiences on his way to
> adulthood and the world of work.

I have observed that career education and life skills (Foster, 1986) courses seem to have

psychological roots in Havighurst's theory of developmental phases during adolescence.

For instance, according to Havighurst (Zunker, 1994, p. 183) the development of students

at this stage includes:

- achieving new and more mature relations with peers of both sexes;
- achieving emotional independence from parents and other adults;
- preparing for an economic career;
- acquiring a set of values and an ethical system as a guide to
  behaviour and developing an ideology.

This discussion on the three domains will be concluded with reference to Bandura's

(1977) original work on self-efficacy, which evolved out of his interests from studying

the aggressive behaviour of adolescents in 1959. Bandura, like Rogers (1942),

encourages self-reflection and considers self-efficacy a unique human trait because it not

only facilitates the evaluation of an individual's choices but also influences the

individual's thinking, behaviour, and actions significantly. Perceived self-efficacy is the driving force for people's action according to Bandura (1997, p. 3) and refers to 'the beliefs in one's capabilities to organise and execute the courses of action required to produce given attainments'. Without this efficacy belief there is little incentive to act. The concept of self-efficacy has been widely researched and applied across disciplines including career education. Bandura (1997, p. viii), observes that 'the broad scope and variety of applications attests to the explanatory and operative generality' of the self-efficacy theory. For example the Career Decision-Making Self Efficacy Scale (CDMSE) is an inventory that has been designed to measure the effect of an individual's self-efficacy on their ability to make career decisions.

2.4   Issues And Implications For Management

According to Caldwell and Spinks (1988, p. 30-31), forty-three characteristics describe an 'ideal type' of school. These characteristics of highly effective schools 'lie in six areas: climate (20), leadership (11), curriculum (4), decision-making (3), outcomes (3) and resources (2)'.   It is beyond the scope of the present study to delve into these individual characteristics. However, I will elaborate on two areas, the curriculum (with 4 characteristics) and decision-making (3 characteristics) that could help in the formulation of a career education policy. The study uses the definition proposed by Stringham (1970, quoted by Caldwell and Spinks, 1988, p. 41), 'a policy consists of a statement of purpose and one or more broad guidelines as to how that purpose is to be achieved'.   The three outcomes mentioned in Caldwell and Spinks (ibid, p. 31) are similar to the three criteria mentioned in section 2.1.

Although this study involves the career options of only nine students, I believe that understanding the issues raised by the subjects may help discern any clear patterns of choice among the students at TIS. A career education strategy, as defined in section 1.1, might be mutually beneficial to all stakeholders and can eventually increase student effectiveness. Section 2.1 outlined how schools not only increase their credibility within the community, but also foster success and effectiveness by offering a comprehensive career education programme.

In the discussion below, I will use the characteristics Caldwell and Spinks detail (ibid, p. 31) as individual sub-titles. Subsequently I elaborate on their relevance to career education and show how these can be developed using their Collaborative School Management (CSM) model.

2.4.1 The school has clearly stated educational goals. Teachers are highly involved in decision-making at the school

Nakamura and Smallwood (1980, quoted by Rist 1994, p. 548) have defined policy as 'a set of instructions' that are transmitted 'from policy makers to policy implementers that spell out both goals and the means of achieving those goals'. This 'means of achieving those goals' can be pursued using the dictum of Drucker (1977, p. 385) who advised transferring the ownership of goals to the group that would receive and implement them. In this case it is the teachers in schools who must share in the vision of the policy makers. Bhaerman (1979, quoted by Doty and Stanley, 1985, p. 15) had observed that classroom teachers are 'truly at the heart of the career education process'.

A practical approach to engage the teachers with this vision is recommended in the CSM

model.   By focusing on the needs and not on the means, this study examines only two

phases, 'goal-setting and need identification' and 'policy-making' in the six-phase CSM

Cycle proposed by Caldwell and Spinks (1988, p. 36-56). The four phases that are not

examined here are 'programmes', 'planning', 'implementing' and 'evaluating'.

**2.4.2   The school has a programme which provides students with required
skills.
There are high levels of parental involvement in the children's educational
activities.
There are high levels of community involvement in the children's educational
activities.**

Career education encompasses the educational, enriching experiences of the whole

person starting from infancy to adulthood. Such a comprehensive endeavor involving the

whole person cannot be expected to be the sole responsibility of a single or a few career

advisers in schools, but requires the concerted action of all the stakeholders (including

teachers, students, parents, professionals and the wider community) in education.

Researchers such as Avent (1988) and Hansen (1977) have highlighted this aspect and

the need for a collaborative effort. According to Hansen (1977, quoted by Zunker, p. 207)

it is a 'deliberate and collaborative effort' and has to be developed systematically to

enable the students to make informed career decisions.

Buzzell and Gale (1987, p. 18) define strategy as 'the policies and the key decisions

adopted by management that have major impacts on financial performance'. Schools in

the Emirates, being mostly privately funded, do have constraints on both financial and

manpower resources. What the study proposes should provide long-term returns and

address the intangibles, success and effectiveness, by enhancing student learning and

assist the school in achieving success. When a school is effective, the recruitment of students increases and this affects the school's financial performance. I will cite a school in the Emirates to illustrate this aspect. Recently, the school carried out successfully a three-day workshop offering career guidance to parents and students leaving school in Grade 10 and Grade 12. The school invited outside exerts to administer interest inventories and suggest options for students. It appeared the school was using this as a unique selling point for marketing and enhancing its reputation. The fee-paying parents left the meeting apparently happy with the program. Although this workshop is a beginning, it is vital to involve the whole school over an extended time frame based on what has been discussed earlier. Besides, as Harris (1999, p. 133) indicated, involving outside professional groups can further undermine the position of the career advisers within a school in the eyes of their school colleagues. It can result in a lack of understanding of the unique role of the career advisers in schools.

2.4.3 The school has a well-balanced and organised programme which meets the needs of students.
There is a high degree of staff involvement in the development of school goals.

According to Caldwell and Spinks' CSM model, (1988, p.39), 'identification of needs' is the difference between 'what is' and 'what should be'. To provide a 'framework for a workable approach' to the CSM model, they suggested the creation of two groups, one responsible for policy-making in the school, the 'policy group' and another responsible for implementing the policy, the 'program teams' (ibid, p. 22-24). The policy group might be the school board or school council while teachers will largely represent the program teams.

In this case, by identifying the issues relevant to this research, TIS will be provided some feedback for evaluating the existing career education programme and examining the draft policy proposed (Appendix A). Schools can discuss issues listed by Avent (1988, pp. 32-102) pertinent to career education, reproduced here as Appendix B, during staff meetings, and draft out plans unique and appropriate to the local school settings with the help of the two groups. Using the list of recommendation in the summary, the 'policy group' and 'program team' can make their judgment on closing the 'gap' identified by the needs. Although pursuing only two phases has restricted the scope of this study, it is submitted here as a beginning.

Finally, it might be worthwhile for the two groups to be aware of some of the shortcomings of the CSM model as pointed out by Marsh (1994, p. 34). These include covertly propping up a principal's role, stifling spontaneity in a school's normal functioning, overemphasising the financial aspects of school planning and being demanding on the energies of the staff.

Chapter 3 METHODOLOGY

3.1 Paradigms In Qualitative Research

This study is a small piece of qualitative research that examines the career choices of nine students at an international school to consider their implications with regard to school policy. There are considered to be currently four paradigms that are competing to gain acceptance as the preferred approach for guiding and informing research. These are positivism, post-positivism, critical theory and constructivism. A summary matrix of these traditions in qualitative research has been reproduced here from Denzin and Lincoln (1998, p. 210) as Appendix C and illustrates the implications of different paradigm positions on selected practical issues.

The four paradigms above can be further narrowed down to two broad schools. The first two paradigms are termed 'positivistic' and are usually associated with quantitative studies. To a positivist, reality in the world is independent of the observer. According to Bassey (1999, p. 42) 'positivistic researchers do not consider themselves as significant variables in their research'. The latter two paradigms, critical theory and constructivism are considered 'interpretive' and are often associated with qualitative studies. Bassey (ibid, p. 43) observes that for an interpretive researcher, reality is 'a construct of the human mind'. The ideology of the researcher, which is dependent on the human mind as well as the flux of human behaviour patterns, is an important factor that affects the approach to investigating a problem. According to Denzin and Lincoln (1994, p. 3) this ideology is dependent on the researcher's 'personal history, biography, gender, social class, race and ethnicity, and those of the people in the setting'. Following these

observations of Denzin and Lincoln, I have used the series of questions for assessment as set forth by Miles and Huberman (1994, pp. 277-280, see Appendix J) for data analysis.

The second choice of investigating the factors qualitatively offered the prospect of investigating the research question in detail. This entailed the use of a small number of interviews as outlined in Section 3.4. In this study, I seek to interpret what may happen after examining the particular circumstances; Bassey (1999, p. 46) refers to this as idea as making a 'fuzzy generalization'. The extempore responses of the subjects to the Interview Protocol are appended here as an elaborate matrix for the reader to interpret in Appendix H. The matrix forms the basis for the subsequent analysis as outlined in the next Chapter.

In line with the comments of Bell (1993, p. 6), the primary concern of these interviews was to attempt an understanding of the individuals' perceptions of the world and 'seek insight rather than statistical analysis'. To summarise in the words of Delamont (1992, quoted by Blaxter et al, 1996, p. 60):

> Qualitative research is harder, more stressful and more time-consuming…
> If you want to get your MEd dissertation or whatever finished quickly
> and easily: do a straightforward questionnaire study.

3.2   Reasons For A Case Study Approach

There were a total of sixty students in Grade 12 and about seventy students in Grade 11. The attempt in this research was to gather as much information as possible from subjects who were fairly representative of the larger sample. This way the study could investigate 'particularity and not uniqueness' and make the case more 'intelligible' as Golby (1994, p. 13) suggested.

The case study approach offered itself naturally to pursue this research because it was primarily concerned with the interaction of factors and events and in line with what Bell (1993, p. 8) observed. By attempting to examine the factors that influenced the career choices of the students, this study tries to embody Stake's (1994, p. 237) definition of an evaluative case study wherein 'it is both the process of learning about the case and the product of our learning'.

Bassey (1999, p.7) observes that case study research must enable the researcher to be critical about 'issues related to his or her educational practice'. Referring to studies of particular events in the numerous dissertations and theses he has examined, Bassey (ibid, p. 5) observes:

> Each of these has been a study of a singularity… this being virtually the only form of research open to people who are working at it part-time and with very limited resources.

Two attributes among seven others that Lancy (2001, p. 109) summarises about case study are relevant. He quotes Merriam (1988) and observes that 'case study is a qualitative method and … does not claim any particular [techniques] for data collection or data analysis'. Furthermore, case study 'does not adhere to the qualitative paradigm.

Questions or issues are at least partly predetermined.   What one studies is carefully

delimited in advance'.

Another advantage of pursuing a case study approach was the consideration that the

overall aim of the study was to write a school-wide policy on career education.

According to Adelman et al (1980, quoted by Cohen and Manion, 1994, p. 123):

> Case studies are 'a step to action'. They begin in a world of
> action and contribute to it. Their insights maybe directly interpreted
> and put to use: for staff development, for within-institutional feedback;
> for formative evaluation; and in educational policy making.

However Bassey warns (1999, p. 44) that a 'case study is difficult' because the researcher

must analyse and interpret the data 'to make a coherent report which is long enough to be

meaningful and short enough to be readable'.   Nevertheless these studies offer the

following advantage as Bassey (1981 p. 93) summarises:

> If studies ..are carried out systematically and critically, if they
> are aimed at the improvement of education, if they are relatable,
> … then they are valid forms of educational research.

3.3   The Standard Sampling

Although I had taught most of the interview subjects during their middle and high school,

to have representation from the entire cohort and eliminate investigator bias, I selected

them entirely on the basis of their scores in the standard sampling procedure outlined in

the IB Vade Mecum (2000, p. F7). This procedure is similar to a probability sampling

strategy that researchers call 'stratified random sampling'. According to Berg (2001, p.

31), in this sampling 'the population is divided into subgroups (strata), and the

independent samples of each stratum are selected. Within each stratum, a particular

sampling fraction is applied in order to ensure representativeness of proportions in the full population'. After identifying the five grade boundaries outlined below, I considered two other factors, equal representation of both genders and the inclusion of diverse nationalities, for sampling.

For the sake of the Internal Assessment, each year the teachers in TIS are required to select the work of five students to be sent to an IB external moderator, based on this procedure (outlined in Appendix 5). I decided to short list ten students for this study following McCracken's (1988, p. 17) observation:

> The first principle is that 'less is more'.. for many research
> projects, eight respondents will be perfectly sufficient.

The Combined Grades (Semester and Exam Grades) of the students of Grade 12 on their Semester 1 Final Report of February 2000 in six IB subjects provided the raw data for sampling. After arranging the total marks of 60 students in descending order, the following matrix was constructed. The five numbers in bold print in Fig. 1 below (representing grades 41, 36, 31, 26 and 20) are based on the standard sampling procedure.

Highest Grade (HG)	**41**	(LG)	20	(HG)	41
Lowest Grade (LG)	**20**	(AVG)	31	(AVG)	31
Average (AVG)	**31**		**26**		**36**

Fig. 1   Summary Of Results Based On Standard Sampling
As Delineated In Appendix E

Ten students, five boys and five girls, described in section 3.2.1 were identified as the interview subjects and letters were sent to them and their parents [Appendix F (a)]. A

reserve list was made for backup. All the parents responded positively to the letters by signing their consent forms, so I did not have to use my reserve list. Unfortunately one of the subjects, J, could not make it at the last minute, and so I interviewed nine students between May and July of 2000 from a class of sixty students. This constituted 15% of the students in that Grade. In the end, I recorded and transcribed one group interview (with subjects A, B, C and D) and five individual interviews (with subjects E, F, G, H and I).

3.3.1   Interview Subjects

All these are fictitious names with their actual ages at the time of the interviews.

Anita: 17 years old, Thai, Joined the school in 1991 in Grade 4.

Bina: 17 years old, Indian, Joined the school in 1994 in Grade 7

Charles: 17 years old, Lebanese, Joined the school in 1992 in Grade 5

David: 18 years old, Canadian, Joined the school in 1996 in Grade 9

Elaine: 19 years old, Canadian, Joined the school in 1998 in Grade 11

Fiona: 18 years old, British, Joined the school in 1994 in Grade 7

Geeta: 17 years old, Indian, Joined the school in 1998 in Grade 11

Hamad: 18 years old, United Arab Emirates, Joined the school in 1996
                in Grade 9

Irfan: 17 years old, Lebanese, Joined the school in 1991 in Grade 4

3.4   The Semi-Structured Interview

The purpose of the interviews was to elicit from the students the reasons for their career choices and to compare these results with the literature. I was hoping to gain knowledge and understanding about the key factors through these interactions and use them to evaluate the career education programme in TIS. This section details the procedures that were used during the interview process, and the advantages and disadvantages of interviews over other survey data techniques. A detailed matrix that contrasts the different survey methods is presented as Appendix D. The last column here is based on my experience with the subjects in the group interview.

The principal advantages of interviews are its flexibility, adaptability, completeness and clarity through its human interaction according to Borg and Gall (1983, p. 437) and Bell (1993). Borg and Gall (1983, p. 437) observe that the greatest weaknesses of the interviews might be its subjectivity and possible bias. The standard sampling procedure outlined earlier was an attempt to reduce this bias. To account for the subjectivity, I have detailed the rules used for analysis in section 4.2 and made the analysis largely descriptive by using the words of the subjects in chapter 4.

The main reasons why I chose to interview the subjects instead of using a questionnaire, could be expressed in the words of Bell (1993, p. 91):

> A major advantage of the interview is its adaptability….Questionnaire responses have to be taken at face value, but a response in an interview can be developed and clarified.

Having decided on interviews instead of questionnaires, I carried out a pilot study with students of Grade 11 during a 40-minute lesson. I also had a few of my colleagues

review the schedule of eight questions. Some of the Grade 11 students had not

considered their career paths and the importance of making active choices had to be

understood first. The first question was added after a colleague pointed out that I should

not make a priori assumptions. Thus the pilot group interview with the Grade 11 and

peer review helped me refine and consolidate the original draft of questions as nine

questions in the Interview Protocol [Appendix F (b)].

The interviews were held between June-August 2000 at the office of the GCSE

Coordinator, close to the subjects' common room.   The interviews were scheduled

during the 40-minute lessons in the school. After obtaining their consent for recording

the interview, I attempted to make the subjects feel at ease by speaking to them briefly

about career education in general and the structure of the impending interview.   I was

seeking to minimize the possible effects of the presence of the recorder and believed that

by doing the talking first, the subjects might soon become oblivious of its presence.

One of the subjects wanted reassurance that the interview was confidential. I assured this

student and the other subjects that this was the case and their responses would not be used

against them in any way. For ethical reasons I reiterated that their identities would be

concealed using fictitious names. To further make the study meaningful, I explained that

the honesty of their responses mattered significantly. I informed them I would use some

questions as a form of stimulus, engage them in conversation, and there was no single

correct answer for any question. This way I sought to reduce any bias in the information

provided by the subjects and could focus on my research question. As Measor (1985, p.

57) pointed out "the quality of the data is dependent on the quality of the relationships you build with the people interviewed".

It can be observed from the Interview Protocol [Appendix F(b)] that I was attempting to move from the specific to the general. The questions were made simple and framed carefully to have enough scope for the subjects to be factual and other times reflect on the open-ended questions. Although I had a schedule of questions in mind, the students' responses helped me move to subsequent questions in the Protocol.

This two-way communication during the interviews allowed for adequate flexibility. Further, using the same questions with all the subjects also made it easier for me analyse their responses using a matrix display as detailed in section 3.6. Every now and then, I probed them with supplementary questions based on their responses and interestingly in the group interview; they did this with one another on some occasions. To quote Wragg (1994, pp. 272-273)

> A semi-structured interview schedule … allows the respondents
> to express themselves at some length, but offers enough shape
> to prevent aimless rambling.

The group interview lasted 75 minutes. The duration of other interviews ranged from 25 minutes with Geeta to about 45 minutes with Irfan. Hamad was not available in June but was interviewed for half an hour in August at the Coordinator's office.

Hitchcock and Hughes (1989, pp. 84-86) have referred to 'interview-interviewee' relationships and the management of interviewing techniques as 'situated activities' that create intrinsic difficulties for the researcher. Fontana and Frey (1994, p. 365) mention the 'group culture' interfering with 'individual expression' during group interviews.

This was not apparent to me because I observed that the students in the group did not seem to be affected by the statements of the other subjects. On the contrary, their focus appeared to be on the questions in the Interview Protocol and this supports what Berg (2001, p. 111) remarked: 'the group interview structure is intended to encourage the subjects to speak freely and completely about behaviors, attitudes, and opinions they possess'.

Another problem with opting to interview the subjects was the fact that it would be time-consuming. Although I managed to fit most of the interviews within my school schedule, I had to make an exception in Hamad's case. I travelled to school during vacation time in August to complete his interview. Notwithstanding computer bugs, my biggest difficulty was transcribing the tapes accurately after listening to them numerous times. Blaxter et al (1996, p. 156) have also observed: 'interview tapes take a great deal of time to transcribe and analyse'.

The subjects provided a number of answers in the final question about their career plans and were willing to continue with the conversations longer than scheduled. The entire transcript of Irfan's interview along with his validation via e-mail is reproduced here as Appendix G. The informal part of the interview not only enriched my understanding of my research question, but also prompted self-reflection, and helped me in the preparation of some conclusions in this study.

Walford (2001, p. 96) recommends that interviews must be used with great care. Referring to the uncertainly about the validity of interviews, he concludes that the information provided by an interviewee might depend on whether the subject has 'greater

potential impact' or 'no direct investment' to the interviewee and therefore the words have to be interpreted with caution. The subjects had finished their examinations and already made their choices of universities when we held the interviews. Some of them had their acceptance letters from the Universities. All these may have helped the subjects to feel relaxed during the interviews. Nevertheless I was always wary of the Hawthorne effect cited by Brown and Dowling (1998, p. 39) wherein the responses of the students might have been altered due to their self-consciousness about being interviewed.

Prior to and after transcribing the interviews, I planned to use the 'Record Books' of the subjects. This book, devised by the career adviser to assist her in writing student recommendations, was given to students at the end of Grade 11. It required the students to fill out information about the subjects they studied from Grade 9 onwards, their participation in extracurricular activities and their achievements. The purpose of using the book was to achieve participant triangulation and also obtain 'familiarity with the biographical and contextual features' of the subjects' life history as Lofland (1971, quoted by Hitchcock and Hughes, 1989, p. 86) suggested. I gathered some personal details of the subjects and a few teacher recommendations from these books, but could not make use of this data in the study because I found they were largely incomplete. Further, the books did not have the subjects' responses to career related questions.

3.5 Reliability And Validity

The IB has used the standard sampling procedure outlined in Section 3.2 for effectively moderating the Internal Assessment, worth 24% of a student's final grade for several decades. To quote the IB Vade Mecum (2000, page F1) 'these procedures are designed to ensure the validity and reliability of the marks'. According to Hemmersley (1987, p. 19) the usage of concepts like validity and reliability are 'vague and inconsistent'. While there is a large body of literature dealing with these concepts, the definition of Campbell and Fiske (1967, quoted by Hemmersley, p. 14) will suffice for this study. According to them:

> Reliability is the agreement between two efforts to measure the same trait through maximally similar methods. Validity is represented in the same agreement between two attempts to measure the same trait through maximally different methods.

To gather feedback from the Alumni of the school for the benefit of current students at TIS, I had asked a small group to complete a questionnaire [Appendix H (a)] in June 1999. Seventeen students attended the meeting and completed the questionnaire [Appendix H (b)]. Although their responses do not strictly form part of this original research, some of their comments have been quoted in Chapters 4 and 5, because of their relevance to the Interview Protocol. As pointed out by Hitchcock and Hughes (1989, p. 105), 'there are many different kinds of data and one data source cannot be used unproblematically to validate another source of data'. This is one weakness of this study. Nevertheless, following the suggestion of Gillham (2000, pp. 59-60), I have decided to include some of these questionnaire comments because of their direct relevance to this study.

To ensure that there was participant validation, I e-mailed the transcripts of the interviews to the subjects. All the students took time to look through their transcripts and responded immediately, sometimes with minor changes, sometimes clarifying their stances, and at other times just informing me about what or where they had finally settled. This not only helped me ascertain the correctness of their responses but also helped ensure that the study was based on data that was reliable. Moreover, it was important to find out if some of their opinions or perceptions had changed with time. The detailed 'EDIT' notes that Irfan very kindly provided [Appendix F(d)] 'to express any differences in .. point of view or clarifications that should be made' is illustrative.

3.6   Data Analysis

Using the AskERIC database and ProQuest, an Internet search strung with the key words career education, vocational guidance, factors, influence and decision-making returned numerous links. At least 88 of these links were closely related to this search in the end, and I have quoted only the most useful links here. Using these references [Rosenfeld and Peng (1980), Denga (1988), Fisher and Griggs (1994), Jarvis (1994), Lowe et al (1997)], I recorded numerous factors that have influenced the career choices of students as mentioned in the Abstracts and various Journal articles. Not less than 75 different factors were mentioned in various studies and I have listed them all as shown in Appendix I. Some of them seem to overlap. In any case, these factors have helped in grouping the interview responses into three domains mentioned in Section 2.3.

I attempted to analyse the data in this study using the 'simple' and 'rigorous' methods suggested by Miles and Huberman. According to Miles and Huberman (1994), the methods for analysis involve three processes: data reduction, data display and conclusion drawing and verification. For data reduction and display, I used the validated responses of the subjects to categorize the data [Appendix G] according to the Interview Protocol. The participant validation of the subjects checking interview transcripts was significant here because as Miles and Huberman (1994, p. 241) state: 'the conclusions drawn from a matrix can never be better than the quality of the data entered'. Interestingly, the interrelation of the questions in the protocol could be observed while entering the data on a matrix for analysis, because the answers of the subjects overlapped between questions.

Using the elaborate matrix [Appendix G], a 'squint analysis' was done by scanning down rows and across columns as suggested by Miles and Huberman (1994, p. 242) to observe any patterns. On the first try, the subjects mentioned 29 factors as shown in Fig. 2. A deeper understanding of the meanings and actions of the subjects as suggested by Miles and Huberman (1994, p.8) to capture the 'essence' of their account is attempted in the next Chapter.

Chapter 4   FINDINGS AND ANALYSIS

4.1   The Rationale

Students need to be provided better opportunities for acquiring life skills such as communication, decision-making, problem solving, and exercising their discretion and judgment. The purpose of this study was to 'identify the key factors that have influenced the career choices and goals of the students at TIS'.   An attempt is made in this Chapter to use the descriptions of the subjects and Alumni to discover and understand the rationale behind their informed choices and interdependent decisions. The analysis reveals how their responses become relevant in the context of the literature on career education.

I have drawn out a matrix-display and used it for the subsequent analysis following Tufte's observation (1986, quoted by Miles and Huberman, 1994 p. 243), 'what we are seeking in graphic and tabular displays of information is the clear portrayal of complexity'. The fact that only nine subjects in this study mentioned 29 different factors reveals some of the complexity in the decision-making process. I elaborate on some observed similarities, differences and patterns in the matrix. To quote Jones (1985, p. 56): 'The analysis of qualitative data is a process of making sense, of finding and making a structure in the data and giving this meaning and significance'. The decision rules used for the 'squint analysis' described by Miles and Huberman (1994, p. 242) from my first impressions, and the rules for drawing up the matrix in Table 1 are elaborated on subsequently.

4.2   The Matrix

Table 1   -   Squint Analysis Based On The Responses Of Nine Subjects

No.	Factor	Corresponding number in Appendix I	Typical subject responses
	Personal domain (52%)		
1	Parental support and attitudes [8]	9	*parents supportive and asked me to keep my eyes open*
2	Family support [3]	10	*uncle said study something you can do business with*
3	Family occupations [2]	16	*uncle - doctor helped me focus on what I planned*
4	Motivation [2]	33	*discovered math and physics myself*
5	Salary or monetary reward [2]	14	*money though not consciously; business is kind of fluctuating*
6	Personal attributes [1]	2	*don't want to get stuck to one thing*
7	Strong self confidence [1]	8	*enjoy leading people*
8	Job satisfaction [1]	12	*enjoy it*
9	Cost of education [1]	18	*12 years is also a lot of money*
10	Level of responsibility [1]	25	*enjoy being in some degree of authority*
11	Ego satisfaction [1]	26	*sort of lust for power*
12	Parents' levels of education [1]	28	*mom's trying to make me complete it for her*
13	Math ability [1]	29	*interest in math and physics*
14	Personal beliefs [1]	30	*opens up so many opportunities*
15	Role models at home [1]	32	*because my dad was already into marketing*
	Social domain (24%)		
16	Peer network [2]	40	*friends who have been successful at young age*
17	Mass media [2]	41	*addicted to TV*
18	Books and magazines [2]	55	*just from reading magazines*
19	Occupational salary structure [1]	45	*hundred thousand dollar signing bonuses*
20	Type of work [1]	49	*natural fear to sit behind a desk*
21	Community resources [1]	56	*career questionnaire on CD in career centre*
22	Learning experiences [1]	59	*every single job contributed to my personality to enhance the qualities that make a good politician.*
	Institutional domain (24%)		
23	Teacher encouragement [3]	66	*my teachers offered me a lot of encouragement*
24	Challenging school curriculum [2]	61	*IB programme was good*
25	Interesting high school classes [2]	68	*encouraged us to work hard and made it enjoyable*
26	Extensive pre-college prep. [1]	62	*wide choice of subjects*
27	Opinion of peers [2]	64	*spend so much of time together*
28	Clientele [1]	70	*very diverse set of students*
29	Quality and climate of school [1]	75	*convergence of cultures and attitudes in the international community*

The abridged matrix-display (Table 1) was prepared by comparing the elaborate matrix (Appendix G) of extempore responses of the subjects to the Interview Protocol with the key factors (Appendix I) that have influenced student career decisions. This matrix and the subsequent discussions have been grouped under three larger constructs, to reflect the personal, social, and institutional domains as mentioned in section 3.6.

Using the 29 factors, I arrived at the percentages shown in parentheses for the three categories. For example, 15 factors from a total of 29 would be 52% of the total factors in this case.

The numbers in square brackets represent the number of subjects in this study who have indicated these factors as having largely influenced them in some way.

Some of the statements could have addressed multiple factors, and I have provided full quotes below to reveal both my own and the subjects' personal interpretations. This subjective interpretation conforms to the interpretive paradigm discussed in section 3.1.

I would like to reiterate that the study does not propose that the 75 or 29 factors listed here are comprehensive or might be held rigidly.   They have been detailed here tentatively to provide a framework for the study and also highlight the complexity mentioned earlier. I illustrate this with an example in section 4.3.1 where the subjects in the study have changed their career choices after their Grade 10 examination results. This factor is not among the list of 75 factors.

4.3   Personal Domain

To underscore the influence of various determining factors in the different domains,

exploded pie charts were used as structures for the graphical representation. The cluster

of 'personal traits' (47%) includes the seven factors: personal beliefs, math ability, ego-

satisfaction, level of responsibility, strong self-confidence, personal attributes and
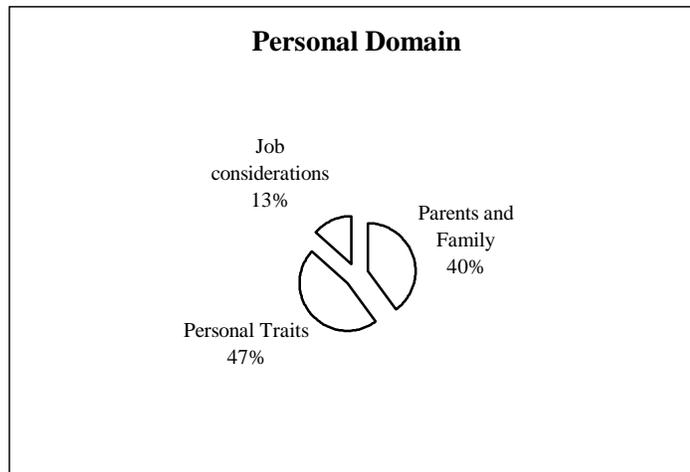
motivation.

Personal Domain

Job
considerations
13%

Parents and
Family
40%

Personal Traits
47%

Fig. 2   Exploded Pie Chart On The Personal Domain

The cluster 'parents and family' (40%) includes the six factors: role models at home,

parents' levels of education, cost of education, family occupations, family support, and

parental support and attitudes. Finally the cluster 'job considerations' (13%) includes the

two factors: job satisfaction, and salary or monetary reward.

4.3.1   Choice Or Chance

The career choices of some subjects in this study had changed for a variety of reasons.

Grade 10 is a transition year in several countries because students have the option of

returning to school to continue with their academic preparation or pursue a vocational

path. There was a question in the Interview Protocol that sought to find out whether the

grades the subjects had scored in their Grade 10 examinations had influenced their career

choice in any way. When the subjects were asked if they had made any changes over the

past three years, six of the subjects, who comprise 67% in the sample, said that they had

changed their choices. Typical responses included, 'I have made a lot of changes' by two

subjects; 'I have always chopped and changed from different things in my whole life';

'My grades didn't help there and so I had to switch again'. Elaine's response has been

quoted in another context, and the following remark by Geeta is illustrative. She said:

> I don't know … I would never ever have thought of doing something
> in science… at least until Grade 10, but after coming here I mean like my
> science grades weren't that bad and that's why I kept my options open also
> towards science.

The consensus among researchers such as Avent (1988), Zunker (1994), Herring (1998)

and Harris (1999) on the importance of providing career education was outlined in

Chapter 2.   Others have remarked that making career choices seems to be more like a

lottery and success depends more on being in the right place at the right time. According

to Herriot and Pemberton (1995, p. 325):

> Individual careers have always been ad hoc rationalisations of chance
> events and opportunities.

Career advisers typically project estimates of current trends for employability. For

instance, some suggest that an average job seeker may change jobs on an average eight

times and his or her career four times. Hargreaves et al (1996, pp. 70) predict that 'young

adolescents … are likely to have an average of five different careers in their lifetime'.

However, in their 1996 high school graduate survey, Lowe et al (1997, p. 7) found

'surprisingly few respondents expect to change jobs many times in their careers'. I would

like to compare the subject of career education with the metaphor of a 'square peg in a

round hole', because the issues here are not about career choices – the 'mismatch' as

observed by Harris and Grede (1977) and quoted in section 2.3, but about all choices.

They are not necessarily choices between right and wrong as Drucker (1977, p. 379)

observed about decision-making, but "it is at best a decision between 'almost right' and

'probably wrong". These ideas are elaborated further in section 4.6. These aspects along

with Hodkinson's observation (1995, p. 3) that follows should be considered while

drafting policies that would help this new generation of students.

> Assumptions that good quality guidance and better information can help most
> young people to make 'correct' career decisions when they leave school are
> shown to be fallacious. It is suggested that policies need to recognise that
> changes of mind and of career direction are normal for many young people.
> Ways of dealing with this reality need to be worked out rather than avoiding it.

4.3.2   Influence By Parents And Family

What is conspicuous in observing the exploded pie chart in Fig. 3 is the big slice

representing parents and family.   A first glimpse might appear to confirm the research

findings at four countries mentioned in section 2.2 about parental influence. Stiffler

(2000, pp. 80-81) in her doctoral study, which used data provided by a sample of 202

North Carolina high school juniors, alluded to fairly high levels of agreement between

teens and parents with reference to discussions on their career plans. However, what I

have observed in this study suggests that they seem to have only a limited influence. Two of the nine subjects in this case stated that there was significant parental influence on their career choices. For example, Anita said, 'My mom was a big influence on where or what career I wanted to choose'. Irfan, acknowledging the role of people who had helped him in making his career choice, clarified by e-mail while validating his statement, 'It is truly my parents who first related my choice of subjects to my eventual career'.

Charles made different statements about parental influence during the group interview. At one time he clearly said, 'My parents had a big influence on my particular choice'. At another time he appeared to make a conflicting statement, and said 'I sort of pieced it all myself; no one really directed me'.

This was interesting because all the other subjects were not so definitive about their parents as critical influential factors on their career choices. Bina did not isolate any particular factor affecting her choice of career. She remarked:

> Not really helped, but influenced, yes, parents, teachers, *Anita,* and because even at home when my mom was supposed to be going into medicine, she got into pharmacology and I've got that kind of background at home. Maybe that helped.

David's remarks best paraphrase what the others related about their parents' influence on their career choices. He remarked:

> Well, just the same as everybody else, parents are influencing everything, but above all this, the simple answer is, I don't know.

It may be useful to compare these remarks with the written responses of the Alumni observed during a questionnaire study that I carried out in June 1999. Although this

study did not form part of this original research, I will introduce their comments here considering their relevance following Gillman's suggestion quoted in section 3.5. I was trying to find out the people who had influenced students' career choices by comparing the subjects' and Alumni responses. I found that, except for two students, the Alumni were definite about the help that they received from their counselors or professors in their Universities. Two students, Tom and Pia, however, had a different perspective. To quote Pia, 'My university hasn't really helped me make that decision'. These two students, and the subjects Anita and Bina, selected medicine as their first choice. The profession calls for great intensity of purpose and commitment, and recognising the hurdles that even a keen student may have, counselors might not suggest these to students. The fact that only those students who chose medicine as a career, excluding Charles, had been personally motivated and affected significantly by parents made me curious.

Tom's mother, Sara, was my former colleague at TIS. During an informal conversation with her in August 2001, when I inquired about Tom's choice, she said her father was staying with them when Tom was in his final year at school. Tom had still not decided what he wanted as a career. Being a doctor, her father encouraged Tom to go into medicine and this had motivated Tom to pursue a career in the medical industry. Tom decided to study medicine, but later changed to business, because he could not cope with the demands of this course. Sara remarked that, in retrospect, it did not seem a good idea to push her son into medicine. This incident confirms what Denga (1988, p. 34-35) cautioned career advisers about in his study.

> Efforts should be made to discourage rigid parental influence because a child who is ill-equipped for a particular academic subject combination will only waste time and drop out of that course eventually.

The factor about "parents' level of education" was also noteworthy. One of the comments

confirmed a widely held view about some parents pushing their children to vicariously

accomplish their own unfulfilled dreams. Anita, clarifying her mother's influence, said:

> My mom was halfway through Med School before she got married. She never got
> to complete it. So I guess she's trying to like making me complete it for her or
> something like that.

Rosenfeld and Peng (1980, p. 15) have cited other researchers to support parental

encouragement and 'the larger effects of mother's education on daughter's perception' to

typify parental role modeling. I have heard similar sentiments on other occasions and it

appears that parents' priorities are a driving force behind several students'

accomplishments. Feynman (1989, p. 19), acknowledging his father's influence, reflects

as follows:

> I was never able to explain any of the things he didn't understand. So he
> was unsuccessful: he sent me to all these universities in order to find out
> those things, and he never did find out.

Denga's (1988, p. 30) observation that 'most parents become involved in the career

choices of their children to ensure that their own occupational dreams are fulfilled by

their children' confirms Anita's statement above.

Since a third of the subjects specifically mentioned their uncles' influence, I wondered

whether students were more comfortable discussing their career choices with their

extended family, friends and teachers, rather than their immediate family. This aspect

might therefore merit further study. The scope of the present study with its limitations on

time and the number of respondents was inadequate in addressing this issue. By

interpreting the milieu of family background as somewhat broader than just parental

background, Anita, Hamad and Irfan's statements show how their uncles had greatly

influenced their career choices. Anita said:

> Last year I met my uncle who is a doctor. I was talking to him about life
> as a doctor, and what he had to do and so he influenced me, like showed
> me this is what you have to do, this is what you're going to have to go through,
> so be prepared for this sort of thing. It helped me being focused on what you
> actually plan to get if you're not already are, and if you're not devoted enough to
> get into that sort of career, then you can still back out, because it's not too late.

Hamad said:

> I think it was my uncle; he put me into that path of e-commerce. I was
> first thinking of Internet and basically networking companies, but he said –
> just study something that you can do business with, because you can never
> live off just your job here, try to study something that you can do your
> business with - so he put me on e-Commerce.

Irfan remarked:

> What started me off along this path as it were was my uncle. He was a
> major influence in getting me interested in computers. He essentially taught
> me how to program…

Fisher and Griggs (1994, p. 7) have also articulated a similar sentiment and state that,

'unfortunately, the influence of family interaction styles on career decisions has been

virtually ignored by researchers'. This observation coupled with the words of Phillips

(quoted by Kasky, 1999) presents a different view of parental involvement. According to

Phillips, 'in many households, the idea of talking about college doesn't exist'.

One may expect a random sample of students to have a myriad of personal factors that

could influence them, and it will be unrealistic to discuss them all individually. Although

some of the factors in the personal domain appear fairly straightforward, the factor on

"ego satisfaction" is not so obvious. This can best be illustrated through the words of

David. He was candid in his rationale for choosing to become a politician and considered this to be a reasonable option. He said:

> 'the other alternative would have been acting, but I don't respect that profession at all'. I have this sort of lust for power, so I am always thinking; I enjoy being in some degree of authority over people. So I don't know it's nothing like an inferiority complex or anything, I just enjoy leading people.

4.4   Social Domain

The cluster of 'media and peers' (42%) includes the three factors; peer network, mass media and books and magazines. Goodlad (1984, p. 9) refers to the mass media as a 'great but little understood power'.
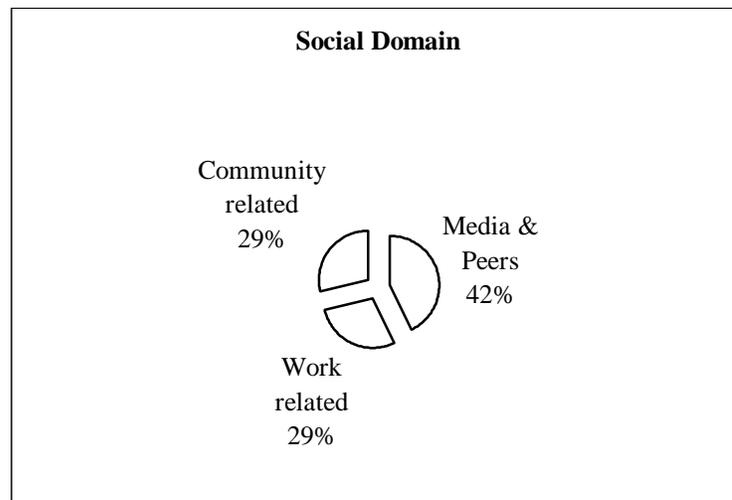

Fig. 3   Exploded Pie Chart On The Social Domain

The cluster 'community related' (29%) includes two factors: community resources and learning experiences (in the community). Finally the cluster 'work-related' (29%) includes two factors: occupational salary structure and type of work.

4.4.1 Influence Of Mass Media And Peers

The small number of subjects in this study was again a limiting factor but the responses

of the subjects provides a reasonable description of the influence, or sometimes lack of

influence, of people and media.   A few subjects seemed to distance themselves from the

influence of the mass media and stay entirely focused on their personal aims and

intentions, while some others appeared to have modified their choices. David, for

instance, appeared to have been unaffected by the media and said:

> Nobody really influenced me. I mean I can't think of anything. I'm addicted to television… The portrayal of politicians is very negative, but when you come to think of it, it is like, a very tough job. There's a lot of pressure coming from all places, so I thought, it'll be a nice challenge.

When I asked Charles why he chose to pursue law, rather than business studies which he

studied at school, during the group interview, Charles replied:

> Reading, and looking at statistics, I realized that too many people were doing computer science. So, I decided, like, to try and explore some relatively unknown field, try something different.

Elaine, on the other hand, having gone through the same process of reading and looking

at statistics, seemed to have adopted a different approach:

> So just from listening to other people, from reading magazines, the information that you gather it seems like a good choice, just because, other people are successful, even though these are people you do not know, although you do not have direct contact with.

Elaine, highlighting the role of peers and salaries, continued:

> A couple of my friends have older brothers and sisters who have, at a very young age been successful. Even in Canada there is recruiting for some business and IT courses. They have people coming into universities, and you know promising them these hundred thousand dollar signing bonuses.

Hamad said he had chosen e-commerce and computer science as a major in university.

When I asked him for his reasons, he was quick to add, 'That's today's in-thing'.

Fiona had decided on a travel and tourism course. She mentioned during her interview

that her friend from the UK had influenced her career choice. When I asked Fiona how

her friend had influenced her significantly, Fiona said:

> I'm not sure, but I think it is one of those courses that was very popular in my area…It's extremely popular there. There must be some reason. Everyone is being ambitious and traveling a lot now and I guess tourism is just great, because everyone is competing with everyone else.

Speaking of the contribution that the community resources had made, Fiona clarified that

when she was about 15 or 16, 'it's best to see what options you do have at work'. She

thought because she believed that students 'at this age are not sure what they want to do'

and continued:

> I mean in the UK, they had a computer system where I lived, in a Career Centre. You go in and you do a questionnaire on the computer; there are simple questions that you complete. You answer simple questions about what you like what you don't like and what you'd like to do. And then at the end, it comes up with a list of jobs that you'd be suited for. That really helped me as well.

Silverman (1993 quoted by Rysiew et al, 1999, p. 426) too has reiterated that guidance

should be used early in life to help students identify 'their capabilities and clarify their

interests'. Being curious and interested in observing how career choices of the subjects

matched their results in an online career questionnaire, I sent them a website of The

College Board in the USA in January 2001. Ghiselli (1966 quoted by Zunker 1994, p.

137) has pointed out that 'predicting success in occupational training programmes on the

basis of test results is only moderately reliable'. Unfortunately in the transformation from

www.collegeboard.org to www.collegeboard.com, the test disappeared and only one

subject could take it before the change [included here in Appendix F (b)]. While the benefits of these career interest inventories have been recognised, they cannot be accepted without some amount of skepticism. As Irfan's observed: 'I'm not sure how accurate it is… It came up with some pretty preposterous things'. Irfan added that, seeing him answer the Online Career Questionnaire, his father did the same. To his father's surprise, it came up with the pronouncement 'Health Service Managers' which was exactly his forté. In his case as well, the very second choice was 'Electrical and Electronics Engineers' which is interesting, considering that elsewhere Irfan had said, 'It has been a little difficult adjusting to the fact that a career that I'd been so intent on for so long, that of electrical engineering, is not the choice I intend to make'.

My own belief is that these interest inventories tend to be helpful in providing some directions as Fiona has pointed out above, but they have to be investigated and situated in the students' environments and cultures. Irfan said what was particularly bizarre about the results was 'Funeral Directors' as one of the options and that was totally unexpected. A follow-up session by a career adviser, explaining how such interest inventories, work largely by the process of elimination, would have helped. This would also help address a serious criticism leveled against the use of the interest inventories, even in the industry, because results without follow-up may be a waste of time and could sometimes be damaging to test takers morale.

I have made some observations about the subjects' work experience in section 4.5.1, but referring to this issue, Irfan said:

I visited some universities. I went together with my uncle to the IBM research department and actually that was very significant, because he told me that not all the people working there are electrical engineers, on the contrary most of them have degrees in math and physics …I did not have to be an electrical engineer to work somewhere like IBM, or help somewhere in manufacturing computers. I could do math, I could do physics, and this is actually something I would have liked to know some three years ago!

Based on the responses of the subjects illustrated in these two sections, one cannot concur with Coleman hypothesis (1966, quoted by Beare et al, p. 2) that: 'Schools bring little influence to bear upon a child's achievement that is independent of his background and general social context'. Critics of Coleman such as Goodlad (1984, p. 5) have argued that even if his hypothesis were correct in the interpretation of their collected data, 'he surveyed only what is and not what could be'. Edmonds (1982) observation quoted in section 4.6 reinforces the institutional influence on student effectiveness and understanding the factors in this domain are important here.

4.5   Institutional Domain

The cluster 'school related' (42%) includes the three factors: challenging high school curriculum, extensive pre-college preparation and quality and climate of the school.   The cluster 'teacher-related' (29%) includes two factors: teacher encouragement and interesting high school classes. Finally, the cluster 'peer influence' (29%) includes two factors: clientele and opinion of peers.
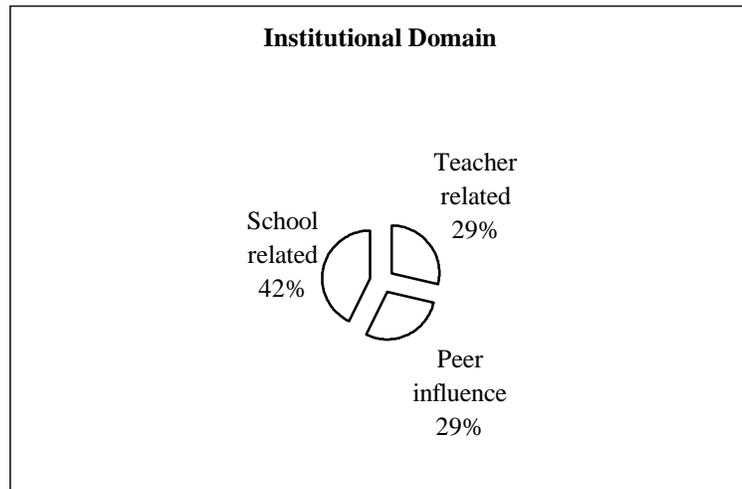
Fig. 4   Exploded Pie Chart On The Institutional Domain

Before moving further, I would like to highlight the difference between the school as the

'organisation' and its 'people'. Irfan's observation made during his validation illustrates

this distinction. He held:

> School, as an organisation, did not offer any guidance in choosing a career.
> There is a distinction between this and my implication of an 'individualized'
> school. The teachers and individuals who form the school did offer me some
> career guidance.

4.5.1   The IB Edge

The subjects were generally very positive about the rigorous and comprehensive pre-

university preparation that the school's IB programme offered. Rosenfeld and Peng

(1980, p. 40) have highlighted how a challenging high school curriculum impinges

directly on the students' post-secondary decision-making process. The IB programme

requires students to study six academic areas from both the humanities (languages, arts

and electives, individuals and societies) and the sciences (mathematics and experimental

sciences).   Further it encourages all students to participate in artistic pursuits, sports and

community work through its creativity, action and service (CAS) module in the

programme. The benefits of pursuing this programme would fall under the 'organisation'

aspect highlighted by Irfan. Geeta, having come from a different background of

schooling, had benefited immensely by the change to the IB said, 'The IB programme

especially is really good'. Anita, like Bina, was particularly pleased with the wide range

of subjects that the student had to choose from. Anita remarked:

> In the IB system, you have to choose six subjects, which means it is quite diverse,
> but most of the other schools which have the A-levels, it's only three subjects,
> which means you have to be sure of what you want to do. So at least in this school
> they still give you a choice, especially if you're not sure of what you want to do…
> You are not restricted to one particular thing.

Bina went on to elaborate on how this diversity had particularly helped her keep her

options open. She said:

> If I had to choose only three subjects, I would have taken only physics, math
> and English or something and now my field is completely in Biology and
> Chemistry, and I would've never done something like this.

Charles and David disagreed with this and said the school system was not so much of an

influence, but focused on the 'people' aspect of the school. Coleman (1977, p. 4)

observed that the stakeholders' perception of a school's reputation is based largely on its

'student body'. Charles remarked:

> I believe that it was more the students, the convergence of cultures and attitudes
> in the international community that influenced me a lot more than the school.

David also commended the diversity of the student body at TIS. He stated:

> A lot of them enjoy open- ended discussions, unlike the A-level students…
> I enjoy getting other people's points of view…I think that's the foremost
> important aspect of being a politician, understanding people's views,
> understanding their needs and wants.

I was surprised that none of the subjects had said that they had benefited from the CAS

module during their interviews, because this compulsory component of the IB was meant

to develop competencies that prepare the students better for adult life. Lowe et al (1997,

pp. 59-60) had also observed that 'students are most likely to report that high school had

not provided them with specific job preparation and technical skills'. However, when I

asked them about their work experiences and their utility, David said:

> Every single job contributed to my personality to enhancing the qualities
> that make a good politician.

Irfan brought up the extended essay aspect of the IB requirement as being important

when he categorically stated during his validation that 'it was the extended essay that

really got me really interested in research'. This benefit of a challenging IB programme

was confirmed in the Alumni responses too when they were asked about the most

daunting task that they had to face as students before and after getting into university.

This is best illustrated by this comment from Jan, when he said, 'The IBs…but it was

worth it, especially getting the IB Diploma'.

Fiona, underscored the 'people' aspect when I questioned her about making changes to

her career choices during the past three years. She said that she had done well on the IB

Certificate course. However, speaking about the IB curriculum, she remarked, 'I guess

it's OK' and continued:

> I can't really compare it with anything but it was maybe the teaching that's
> different. So I didn't feel I have learned as much as I could have. I mean there
> are certainly some teachers who really encourage you to do stuff. Mrs. X,

> she's probably one of the best teachers I have had. She encourages you to work hard and she makes it enjoyable, whereas other teachers not so much.

Earlier when I had asked Irfan about the people who had helped him choose his career, he made this remark during his validation:

> We may have laughed over this point, but my teachers, especially you, Mr. Y and Mrs. Z really did offer me quite a lot of guidance and encouragement.

These two statements by the subjects support Rosenfeld and Peng's (1980, p. 36) observation about institutional influence as articulated in section 2.1. I have seen the career education programme develop gradually in this school as the number of students has grown, and elaborate on its relevance from a management perspective in the next section. The Alumni in their responses did not at any time express any dissatisfaction with the school. The Alumni, by stating that the predominant qualities that they thought would be beneficial for student's entering university was the students' receptiveness to new experiences and open-mindedness, seemed to validate Rogers' vision. Rogers (1969, p. 304) had identified these as critical qualities for learning over three decades ago when he envisioned what education might become in a society that will seek to develop people who can 'live more comfortably with *change* than with *rigidity*'. From my experience of teaching physics at secondary schools, I believe students can be better prepared in hypothesis making and learning tentative ways of observing reality. A comprehensive career education program involving all subjects might address this challenge.

In her comments made after verifying the transcripts of her interview, Elaine said:

> The only thing that I want to make clear is the fact that TIS offered NO career counselling at all, they did not assist me in the least in making a career decision. In the interview my response seemed a little passive, and I want to make that point very clear! Other than that everything seems accurate, and I agree with the responses.

I was trying to reflect on why she held this feeling so strongly about the school. Was it acculturation, because she had said earlier during the interview that she had moved to the Emirates from North America?

> When I was in Grade 9, 10 or 11 in North America, I thought maybe physiotherapy or something like that …But then like I said I came here, I think maybe the atmosphere in the Middle East as well because it's more business oriented, and that's what everybody does, so it sort of helped me in my interest in marketing and advertising in business.

4.6   Implications For Management

The subjects made several recommendations to enrich the career education programme in TIS and raised the following issues: work-experience, shadowing professionals, interest inventories, project and field work, career day, dedicated and well resourced library, team of career advisers, school leavers kit and subject specific advisers during the course of their interviews.   I have listed them on a matrix in Table 2 and Table 3 in the two extreme columns. Although I was not aware of some of these issues when I started this study, I have subsequently found these suggestions discussed in educational research.

4.6.1 Need for clearly stated educational goals

At secondary school students are still capable of being influenced significantly by their interactions with both their peers and their teachers. The Alumni in their responses said they would have liked to be better prepared to meet expectations at university level. While validating his interview, the subject Irfan added:

> A policy would help because there is none in our school. The need
> for awareness is important because it was never clear, starting the IB,
> that a year and a half down the line I would be applying to universities,
> and universities would be looking for this and that.

Irfan, while reflecting about how the home and school influence remarked: 'The question WHY is too rarely asked" and suggested that schools could encourage the students by asking them questions that would help them explore various career options. He added: 'perhaps guiding students more actively is the answer, emphasizing the need to make decisions, and giving students the opportunity to reevaluate their decisions'. What he clarified further is vital to this issue of career choice. He said:

> Given that it is important to make students think more deeply about their
> decisions and reflect upon their choices, perhaps forcing them to complete
> certain tasks that promote introspection would be appropriate.

Irfan went on to elucidate these ideas with a practical suggestion that might help the school and the students advance this critical aim in the secondary school. He was suggesting not only at what stage such a task would be meaningful, but also why it was relevant. He said:

> Requiring students to write an essay describing why they have chosen a
> career path, sometime around grade 11, would have many benefits. The
> students would be forced to think deeply about their choice.

Caldwell and Spinks (1988, pp. 92-93) proposed that a 'well-written and continuously updated policy' could satisfy the needs expressed. They elaborate on how this would benefit both the school and the students because it would lead to greater 'effectiveness', 'stability', 'continuity', 'framework for planning in the school', and 'accountability' among several other benefits. Based on this perspective, schools might better serve their purpose in that they have done their best toward helping their students meet their futures with hope and confidence.

4.6.2   Need for a programme that might provide students with essential skills

In section 4.4.1, I quoted Fiona, who said she was actually helped in what she might like to do by the suggestions from a programme that matched her preferences of likes and dislikes. Observing how the school could assist her, she said:

> I think there should have been something set up where you could have
> a meeting with the teachers and talk about what you like or what you
> don't like.

When I asked the subjects in the group interview about any hindrance or additional help they would have liked to receive from school, Anita, referred to David's comments about his experience in Canada where they used to take students to observe the actual people in a real-world environment. She continued:

> I agree with what David said, especially the bit about you need to see the
> world more, like you have to see what's fascinating.

Referring to TIS, Bina added: 'we had practically nothing here'. Amanda referring to how schools in Canada helped her, spoke about interest inventories and added, we did:

> Tests to see what you might be good at, finding your potential, and what
> you might be interested in, and there's none of that here. I think that now
> that I'm graduating, I would need ideas of the kinds of jobs that are out there.

Irfan during his interview said the school 'did not help me find what I wanted to do'.

Evidently, the subjects of this study wanted more help from the school. The importance

of an institutional role becomes apparent when we recognize that some students can

expect little help from outside. Handy (1990, p. 159) observes that the harsher realities of

competition has resulted in the following situation:

> No longer is there the feeling that somewhere someone is thinking about
> your life, watching your development, planning your next steps. It probably
> always was an illusion, now few ever pretend.

I believe that, by offering a comprehensive career education programme, teachers and

schools can devise strategies that will help them demonstrate how their roles integrate

with the overall goals of education. It would be impossible to visualize any one 'right'

method to achieve these goals and a great deal of professional judgment is called for. The

views of Handal and Lauvås (1987, p. 22) become relevant here. According to them, in a

field like education:

> It is important to have people working who are aware of the background of
> what they are doing, and who are able to change and adjust both their 'theory'
> and their practice in the light of new evidence, and reflect upon what really
> happens around them in the classroom, the school and society.

Handy (1990, p. 158) has warned us about current trends in society and observes that

organizations these days promise opportunities rather than careers. He states: 'Papers

already reflect this trend: the advertisements offer a job more than they promise a career'.

The issues that have been raised about career education in this study are not only meant

to help the students find a job, but also empower several students to experience job

satisfaction; they may not only about help students select a career, but encourage

student's finding themselves by self-reflection.   Bandura (1997, p. 422) in advocating

this constant self-reflection for advancing the aims of career education observes: 'The choices people make during the formative periods of development shape the course of their lives'.

According to Moses (1998, p. xv), career education is not just providing information about career choices to the students, but entails the idea of 'career intelligence'. She reiterates that career intelligence is not simply working smarter – 'harder, faster, more effectively' but is also a way of understanding oneself and the world, and a way of acting upon the world. Moses argues that one cannot act effectively on the world without first comprehending it properly and, therefore, only by 'knowing yourself will you be able to make the right decisions' about your career. This is a significant idea and clearly one cannot find oneself in a matter of a few days.

Issue 1 in Parsons' formulation mentioned in section 2.1 underscores this vital element. Parsons (quoted by Davis, 1969, pp. 109-110) states: 'No person may decide for another what occupation he should choose, but it is possible to help him so to approach the problem that he shall come to wise conclusion for himself'. This is another compelling reason for a school to have a school-wide policy to help students determine their best personal choices and define personal priorities. The teachers could act as facilitators for this understanding and thereby enable the students to make the appropriate decisions at the crucial time.

4.6.3   Need for a programme that could meet student recommendations

The matrices that follow have been constructed using the subject's recommendations. What I would propose as a viable strategy from a management perspective (prospect or what could be) acts as a bridge between what the students have observed about the existing career education programme (retrospect or what is) and what they want to see (demand or what should be). Table 2 has recommendations that would use the existing structure and does not involve any significant costs other than that of stationery and the photocopying of some documents. The school currently has a total of 45 lessons timetabled in a week, each of 40-minute duration.   Teachers have observed that several students in Grades 11 and 12 seem to have plenty of spare time, after supervising students' 'study hall' times. To effectively implement a career education programme, I believe one dedicated 40-minute lesson instructed by a career adviser would be adequate. This might be supplemented with Avent's observation detailed below.

Avent (1988, p. 123) has observed that career education provides an integrating function within the school and enables the students to live fulfilling lives. She reiterates that although career teachers would be instrumental in developing a comprehensive programme, subject teachers can reinforce career decision-making skills because the academic subjects provide the context in which students can improve their self-confidence. Fiona explained how because of poor recruitment by a Polytechic, she had to change from the travel and tourism course that she intended to do, to a full-time beauty therapy course offered by a training school. She said:

> I am very happy that I have chosen this career as I think it is one of the few careers that make your client feel good. I .. found that learning is never ending.

Table 2   –   Proposals Within The Existing Structure

What is	*What could be*	*What should be*
Retrospect	**Prospect**	**Demand**
Evaluation of the career programme	My recommendations	What the subjects would like to see
There is no career day in the school	This could be coordinated by the Head of Careers using the resources available to the school	Missed a career day where student's learn about some professions – David
No fieldwork or work experience is being offered by the school	There are opportunities to visit local industries but this needs to be coordinated	Need more fieldwork and more case studies – Hamad
Hardly any subject specific guidance or minimum requirements are being Enforced	This could be done by having the Heads of Department briefly inter-view about 6 students	Need more subject specific guidance and correlation between IB choices and our university majors – Irfan
There are some books and videos that students can watch and there are periodic visits by some college admissions personnel	A wealth of resources are available and only require a letter from the school to the university	Need more books to read and videos to watch about how universities work – Irfan
No interest inventories are being offered	There are several tests, which might be used to develop awareness and determine aptitudes	Need paper and pencil tests to determine potential - Elaine
There are a few books published by CRAC/ Hobson's but there is no directed reading	A tour of the available resources could be easily arranged	Need to have course descriptions of possible university majors - Fiona
No school-leaving kit is provided for the students at TIS as they graduate	A school-leavers kit could be prepared with little additional cost.	Introduction to the expectations of universities - Irfan

Table 3 – Proposals That Recommend The Setting Up Of A Team Of
Career Teachers Or Career Coordinators

What is	*What could be*	*What should be*
Retrospect	**Prospect**	**Demand**
Evaluation of the career programme	My recommendations	What the subjects would like to see
There used to be a career section at the library but it has now been shut off because it was vandalized by some students	The dedicated section could be monitored by student volunteers while a team of career teachers could be available to advise students	The career section of library is just facts, books and does not give you a colorful image of what to expect - David
There is little guidance in school at the moment	A team of career teachers is not difficult to set up within the available resources at the school	Should have offered a broader range of guidance to students - David
We have one career adviser who is also the Head of Year 12 and has almost a full teaching load	It is possible to set up a team of dedicated career teachers	Need career advisers for the students - Elaine
No team of career teachers at at the school currently	Career coordinators and subject teachers who could be students' personal advisers might be a start.	Need someone to talk to and find out more, and force you into doing it - Fiona
Students get to interact with the career adviser only in their final year at the School	With a team of teachers and discussions with other subject teachers, more vocational and careers advise can be offered to secondary students	Career advice must not be only applications and could have been better, starting off earlier - Geeta

Several schools in this region, like TIS, do not have a formal career education programme

for students. After examining Table 3 above, it is recommended that setting up of a team

of Career Coordinators would be a possible option to meet the students' needs. This is

important because the team could agree on a programme that integrates with a school-

wide curriculum. Further, the career coordinators would be able to take responsibility for

providing the students with directions and structures with the help of a wealth of resources at their disposal.

With an agreed philosophy, it would be possible for the Career Coordinators to solicit the contribution of colleagues to develop a programme suited to the school.   Further, several practical and useful ideas for teachers across the subjects to assist the career teachers with their tasks have been listed by Avent (1988, pp. 60-64). There are a large number of resources such as these available, and schools only need to show an interest in pursuing this strategy. The costs of implementing them are considered to be minimal compared to the wealth of benefits they have on student effectiveness, as outlined in Section 4.7, particularly for students in Grades 11 and 12.

Earlier, I had identified that one of the consequences of a comprehensive career education program would result in student earning 'higher grades' (Criterion 1 for student effectiveness). Edmond (1982, quoted by Beare et al p. 2) has also observed:

> Educators have become increasingly convinced that the characteristics of schools are important determinants of academic achievement.

It is also important for the career teacher to be willing to spend time with the parents of the students. Several parents during parent-teacher conferences express concern at this unpredictable stage in secondary school when their children listen less to them and more to their teachers. They would be glad to provide assistance to their teenage children in any possible way with the help of their teachers, and schools should use their input to the benefit of all involved. Before I summarise my recommendations in the conclusion, I would like to reiterate that several teachers might be willing to contribute with their time

willingly for a small financial consideration as detailed in the following section. To quote

Avent (1988, p. 55):

> No other subject offers such a variety of material, method and process, nor
> so many contacts outside the school. It can offer professional fulfillment to
> teachers … and make use of all sorts of capacities and characteristics.

4.7   Estimated Costs For Establishing A School-Wide Career Education Programme

In a recent restructuring at the high school, four positions of 'Heads of Houses' were

made redundant. Instead, positions for 'Heads of Years' were established in the

secondary school during the academic year 2001-2002. Although this created seven new

positions in the secondary school, additional expenses had to be provided for only one of

these, because the existing GCSE Coordinator and Career Adviser had the additional

responsibility for Grade 9 and Grade 12, respectively. TIS has a total of about 625

students in Grade 6 through Grade 10. In Grade 11 and Grade 12 there are about 150

students. The Head of Year is expected to not only monitor the behaviour of students but

also provide guidance and counselling. Using the additional allowance (Dirhams 300 per

month) that the school allocates to the Head of Year as a basis, I would like to propose

the following structure.

Although this study is intended to suggest a framework for the career education

programme for Grades 9-12, it seems reasonable to propose a scheme that involves the

entire high school from Grade 6 to Grade 12 in such a programme. Currently the salaries

of teachers paid by the school are in excess of a total of Dirhams 1,000,000 per month

and students pay about Dirhams 1,000 per year for textbooks. The costs summarized in

Table 4 take into account four categories, teacher salaries and three overheads.

Table 4 Proposed Budget For Setting Up A Career Education Programme**

Category	Approximate School Budget (per year) in Dirhams	Proposed Total Expenses (per year) in Dirhams	Comments	Percentage of Total Budget
COSTS				
Teacher's additional salary	12,000,000	14,400	Six new positions to be compensated @ 250 per month	0.12
OVERHEADS				
Teacher Resources (Books, CD's, etc.)	30,000	2500	Including multimedia Resources	8.33
Student Textbooks	1000 (per student)	40	To be decided by a committee	4.00
Career Education Department	1,000,000	5000	Has to be recognized as a separate department	0.50
TOTAL		**25,540**		

* Notes explaining the above matrix are detailed below.

The first overhead is for resources that the teachers would require, the second is for the

textbooks required by the students, and the third is a capital expenditure on account of

creating a career education department. The latter would shift the emphasis away from

any individual and give the career education department the recognition that other

departments have at school.

The additional allowance for the career education coordinator being proposed is Dirhams

250 per month. Since they share part of the guidance function with the Head of Year, the

additional allowance for the current Heads of Years could be reduced to Dirhams 250 per

month. Thus the additional costs to the management of the school for each Grade level

will only be Dirhams 200 per month per person. There are in total seven grades between

6-12. The total costs for additional allowance will be Dirhams 1200 per month. This amount is 0.12% of the total salaries being paid per month.

The overhead per year for teacher textbook resources proposed is Dirhams 2500 per year for the new department, from a total of about Dirhams 30,000 per year for textbooks for the whole school. This is 8.3% of the total, and can be justified by recognizing that it is vital to gradually build the career resources available for students and teachers at the school. The cost for student textbooks is approximately Dirhams 40 per year per book, which is 5% of the current overheads for student textbooks. Finally, to give the career education programme a status similar to other subjects, it is proposed that a department of careers be established with the Head of Careers leading it. As a sum of Dirhams 5000 per year is all that is required to provide for this in the total budget of approximately Dirhams 1,000,000 for all other departments, it is less than 0.5% of the total provision. The final column in Fig. 4.7.1 shows how the overall costs for establishing a career education programme in TIS is negligible.

During the eight years that I had taught in TIS, the school had experimented at various times and provided a floating lesson to conduct assemblies for the different year groups. Although this provision was available for the whole school to use, teachers were not willing to take responsibility for that lesson in the midst of their busy teaching schedules. Soon, this lesson became the sole responsibility of a few individuals. With the creating of career coordinators, the use of this one 40-minute lesson proposed in the earlier section could be maximised and responsibilities shared.

To summarize, the three exploded pie charts in the three domains do not reveal the complexity in this decision-making process. The clusters of 'parents and family', 'media and peers' and the 'school' in the three domains respectively have presented themselves as significant influences. What we have seen here is that the explanations are not so straightforward. Nevertheless, a list of recommendations is summarized in the conclusion for consideration by the management of the school.

Chapter 5   CONCLUSION

5.1   Overview

Schools have to utilise their resources efficiently in order to match their needs with those expressed by the students. This study sought to determine the factors that influence the career choices of students in an international school. The interviews of nine subjects provided data to evaluate the current career education programme in the school. It presented an opportunity to enunciate the views of students who are at the 'receiving end of careers education', as pointed out by Harris (1999, p.15), quoted in section 1.3. Four of the most significant findings in this study relate to policy, curriculum, resources and people.

The subjects expressed a need for the school as an organisation to offer them a broader range of guidance in choosing their careers. To address such 'dissatisfaction', Caldwell and Spinks (1988, p. 92) proposed the formulation of a draft policy. A beginning has been made (Appendix A) based on their definition of policy outlined in section 2.4. This policy and the resources mentioned in Section 4.6 are only illustrative and are not to be construed as the optimum according to Avent (1988, p. 41) because 'circumstances will determine the best way for each school to work out its own system'. The questions for staff discussions listed in Appendix B are a useful starting point and, depending on curriculum demands, schools can gradually develop a unique programme to suit their local needs. Further, to increase an awareness among the faculty, the policy document could be added to the 'High School Staff Guide' 2003-2004 at TIS.

Avent (1988, p. 123) has reiterated that this policy must include teachers of all subjects. One of the subjects in this study, Irfan offered a practical suggestion of making students write essays on why they chose certain career paths in Grade 11 in their English lessons, so that 'teachers and guidance counselors would be given access to the students' points of view and decisions in writing. He also added that then 'it should be easy to tell which students have thought of their decisions, and which students are in need of help'. Zunker (1994, p. 208) refers to this idea as 'career-education infusion'.

Some subjects recommended specific areas that they would like to see introduced as part of the career education programme in the school. Their suggestions such as a career day, paper and pencil tests, and access to career education resources have been detailed in the third column titled 'what should be' in Table 2. Avent (1988, p. 39) has recommended that these resources must be used with caution without relying too much on the outcomes of the interest inventories. She argues that using these career interest inventories would be meaningful only if they were part of 'regular and consistent classroom work'. Otherwise they would impose 'tremendous strains upon the Head of Careers' because tests without feedback, and tests in which the students are not serious will not be valuable. However, she cautions that it is unlikely that all teachers would show 'equal interest in the subject'.

The subjects repeatedly articulated the need for 'someone to talk to' and these concerns are detailed in the third column of Table 3. To address this need, this study has proposed creating more career coordinators who will be accountable for delivering a comprehensive career education programme throughout the school. In Section 4.7, it has

been shown that the estimated cost of this provision is relatively small. This requires a commitment from the management of the school, because traditionally, career teachers have been in weaker positions than their subject colleagues due to lack of support from the senior management. According to Harris (1999, p. 11) '…career education is not universally recognised by all headteachers.'

5.2   Limitations of the research

The study attempts to develop a framework for a career education policy in TIS by using the data collected by interviews with nine students. By using only the data provided by these subjects in Grade 12 and some Alumni responses, it is not possible to generalize to the whole secondary school. This is one weakness in the study. Johnson (1977, p. 320) has observed that 'a case study is incomplete if it includes only what happens to the child in school'. This is another weakness. It is proposed here that a larger number of students across the school and some parents as outlined below might be involved in a further study to evaluate the existing career education programme in TIS.

The study proposed that a well-developed career education programme would be a useful institutional strategy because students could be encouraged to develop their career choices during the crucial, turbulent teenage years. No attempt has been made here to solicit the opinion of other stakeholders such as subject teachers, parents and the school management for triangulation. This is a significant weakness in the study. It could have been partly addressed by interviewing the parents of the subjects as originally envisaged. Although one subject remarked, 'parents are influencing everything', less than a quarter of the subjects in this study stated that there was a significant parental influence on their

career choices. Further studies to investigate this factor would be useful. At this time, the quality and effectiveness of parental involvement might also be assessed.

Furthermore, the three criteria for measuring student effectiveness mentioned in Section 2.1 could not be correlated with student results and responses. These might have been partly addressed by doing a longitudinal study using two cohorts of students, although any findings would have to be interpreted tentatively given the large number of other variables involved. The study could not obtain the opinion of students in the transition years, Grade 6, Grade 8 and Grade 10, on career education. In addition to using several cohorts, future studies could use interviews and complement them with questionnaires as suggested below.

Excluding the NAPO project with students at select government schools in the Emirates, I was not aware of any investigation that related students' career choices with their factors. This study at TIS helped me identify 30 factors that seemed to influence the students' career choices. According to Spearritt (1988, p. 653), 'factor analysis has made its most direct contribution to education through its influence on the composition of test batteries used for educational or vocational guidance'. A further study at TIS could also use factor analysis. The data for this could be from a questionnaire survey that might include at least 150 respondents, to allow for a meaningful statistical analysis.

The limitations that Simon and Associates (1992) mention about identifying choices quoted in section 1.3 are also relevant. Motivation and people's lack of knowledge of their own motivation has not been accounted for in this study. Habermas' observation (1970, quoted in section 1.4) about human interests and the fact that I collected the data

while I was part of the institution might have limited the study's objectivity. In section 3.4 I listed possible drawbacks of interviews on account of their subjectivity and intentional and unintentional biases, and how I sought to minimise them. Nevertheless, as I knew all of the interviewees and had been in a position of authority in relation to them, it cannot be discounted that this might have had some influence upon their responses.

5.2   Summary Of Recommendations

This study has reviewed the pros and cons of career education evidenced in some research. It has helped me essentially reflect on my own practice as observed by Handal and Lauvås (1987, quoted in section 4.5). Students have made and will continue to make their career choices by default or otherwise. Harris (1999) observed that there was not enough room to present the voice of the students in her book. This study has attempted to focus on the students' perceptions on career education. Based on student responses, the following summary of recommendations has been made available for consideration by the management of TIS. As Gillham (2000, p. 102) suggests, the real power of a study 'is in part a function of the uses to which it is put'.

1. There is a need for a school-wide policy on career education to be evolved after consultation with all stakeholders. In this way most of them could participate in the implementation of a program that extends throughout a school year. Appendix B outlining 'Topics for staff discussions' mentioned could be a useful starting point for brainstorming.

2. A team of dedicated Career Coordinators could be set up after recruiting those willing to help establish the programme. The school could reward these volunteers as outlined in section 4.7.

3. Students aged 16 (Grade 11) and above could be initiated into the idea of career exploration and job satisfaction by encouraging them to investigate career choices that exist even among people working within a school.

4. Students could be encouraged to reflect on their career choices by writing essays that would be shared among their teachers when they return to school at age 16, and be made available to younger students to motivate them. This aspect of self-reflection is vital as pointed out in sections 2.3 and 4.6.

5. Students aged 13 (Grade 8) and above may be made aware of making choices whether it is about their subjects, interests or career choices. Paper and pencil tests, online interest inventories and local resources could be used for aptitude testing. The proposed Career Coordinators could provide students with prompt feedback.

6. Students might be encouraged to give their best in all subjects, so that they can become prepared well for the demanding world of work. Heads of Department and Career Coordinators could provide brief interviews on subject choices and expectations of the school when students return at age 16.

7. Parents could be requested to volunteer their assistance in providing students with work experience and work shadowing for a few days to students in Grade 9 and

Grade 11. They may also offer advice to students during career days at the school.

8. Students might be provided with a school-leavers' kit that summarises their experiences during school, highlighting predominant skills and qualities, such as working independently, being open-minded and disciplined, budgeting, elementary cleaning and cooking, adapting to work away from family and friends, and taking responsibility.

9. Students could be encouraged to network with Alumni and other peers to find out and share some insights into university life. They might also be encouraged to stay in touch with their Alma Mater and provide future support to their juniors.

10. Following the observation by subject Irfan, each high school teacher could be assigned a maximum of two to three students in Grade 11 to act as personal advisers and encourage these students to think about their career choices, as it is done at some universities. To make it practical, the teachers could schedule an initial 15-minute face-to-face meeting with each student and use e-mail for monthly follow up meetings. Liberal use could also be made of the career resources available at the school Career Centre.

Considering these recommendations and statements made by the subjects in this study, a draft policy document for career education in TIS is proposed in Appendix A. This document only provides a framework for subsequent development. It is suggested that the management of TIS could establish a committee and set them a definite timeframe to

develop this further. The caveat offered by MacGilchrist et al (1997, p. 10) might be borne in mind: 'we know from our personal experience that it is one thing to create a policy… it is quite another to ensure that all schools… have the capacity to bring about these changes'.

To conclude, career education concepts such as planning and decision-making skills should be part of an institution's instructional strategy and as Zunker (1994, p. 208) observes, 'integrated into existing curricula'. Unlike the school cited in section 2.4.2, schools could actively contribute toward the gradual development of critical career education skills outlined in the study. With a carefully planned career education programme in schools, students will be given more power to direct their lives and cope with real-life situations that are not subject specific. These sentiments are described in the joint DfEE and QCA publication (1999, p. 20) quoted below:

> Career education contributes to pupils' personal effectiveness through its emphasis on transferable skills such as decision making, handling information critically, self-awareness, action planning and review, negotiating and self-presentation. Pupils can use these skills to manage their self-development and career exploration as well as their career plans, decisions and routes.

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Appendix A

Draft Policy Of the Career Education Department
(For Consideration By The Management of TIS)

Purpose: To establish and implement a comprehensive career education programme that will facilitate self-reflection and foster career intelligence in the students.

Mission: The development of decision making and goal setting skills, problem solving skills, developing the aspirations, beliefs, values, aptitudes, interests, job-seeking and job-handling skills, and knowledge of the world of work in the students.

Vision: The career education department seeks to create and effectively implement cutting edge programmes that encourage collaborative work among all the stakeholders in the school community. The programme will strive to motivate and empower the students of TIS by actively guiding them with the assessment of their career choices.

Timeframe: The 'policy group' will exercise their judgment on closing the 'gap' identified by the needs before September 2003, the beginning of the academic year in 2003-2004.

Appendix B

Topics for staff discussion, complied from Avent (1988, pp. 32-33 and pp. 101-102)

1. How can a school make most use of its connections with the surrounding community?

2. Work experience, sampling, shadowing and observation are now accepted parts of the programme for many pupils. How can they be introduced/extended?

3. How much can distance learning, video conferencing, TV and new forms of experiential learning affect conventional teaching methods and how can best use be made of them to enhance pupils' curriculum as preparation for adult life?

4. Is the school guidance system adequate?

5. Should the school do more to involve parents in the total guidance programme? If so, how?

6. Does the school make sufficient provision for counseling of individual pupils with problems? How would other members of staff cope with examples cited by volunteers?

7. What experience of work outside teaching have staff members had? Can this contribute to the careers program in any way?

8. How can we raise the overall standard of education to enable leavers to cope with the demands of an increasingly complex society?

9. How should teachers combat sex-stereotyping of career ambitions and encourage girls to widen their occupational horizons, prepare for a dual-career role as workers and mothers and the possibility of becoming the family breadwinner?

10. Which teachers can contribute to the teaching of practical life-skills and competencies?

11. By what means can a school prepare pupils for possible future self-employment and running their own business?

12. Should the school's record system be extended to note entry to employment or training and subsequent success in qualifying professionally?

13. Is the options system unnecessarily restrictive?

14. Is the pastoral structure as effective as it might be in helping pupils to prepare for adult and working life? Is a year system preferable to houses and should teachers remain with the same group for five years or rotate?

15. What is the most effective way of providing advice on higher education?

16. What part can every teacher play in implementing a whole-school policy of careers and guidance for pupils of all levels of academic ability?

17. When should careers education start? In year one, two or three? How much time should it have in these years?

18. How can the options scheme be arranged so that it minimises constraints on pupils' choices of higher education and careers?

19. What mechanisms are most appropriate for coping with it?

20. How can the school implement a policy of allocating 2.5 per cent of pupils' time in years three, four and five to careers education?

21. Which teachers will teach what elements in the programme?

22. The role of tutors in preparing pupils for adult and working life needs defining. How much are they to contribute to the careers programme? Do they keep records, write testimonials and references, undertake educational and career guidance?

23. If the head of careers produces a calendar of proposed careers events, what significance has this for staff colleagues?

24. What contribution can the head of careers make to staff INSET?

25. An inventory of the school's resources for careers, both physical and human, may be revealing. Are computers used effectively? What suggestions have newcomers to the staff?

26. What should be contained in a leavers' survival kit?

27. Pupil records are a sensitive topic. Who could lead a discussion on confidentiality, custody, responsibility for monitoring, their use as a resource for references and application forms for higher education, ingredients for profiles?

28. Can pupils make an effective contribution to present pupils' careers curriculum? If so, how? What is known among staff of their destinations, successes and failures?

29. What are the organisational consequences of various proposals for increasing school-industry links for teachers and pupils?

30. If a decision is taken that all fifth-year pupils shall have a week's work experience, how is this to be organised?

Appendix C

Major paradigms and perspectives, reproduced from Denzin and Lincoln (1998, p. 210)

Table Paradigm Positions on Selected Practical Issues

Issue	Positivism	Postpositivism	Critical Theory et al.	Constructivism
Inquiry aim	explanation, prediction and control		critique and transformation; restitution and emancipation	understanding; reconstruction
Nature of knowledge	verified hypothesis established as facts or laws	nonfalsified hypotheses that are probable facts or laws	structural/historical insights	individual reconstructions coalescing around consensus
Knowledge accumulation	accretion - "building blocks" adding to "edifice of knowledge"; generalizations and cause-effect linkages		historical revisionism; generalization by similarity	more informed and sophisticated reconstructions; vicarious experience
Goodness or quality criteria	conventional benchmarks of "rigor": internal and external validity, reliability and objectivity		historical situatedness; erosion of ignorance and misapprehension action stimulus	trustworthiness and authenticity
Values	excluded - influence denied		included - formative	
Ethics	extrinsic; tilt toward deception		intrinsic; moral tilt toward revelation	intrinsic; process tilt toward revelation; special problems
Voice	"disinterested scientist" as informer of decision makers, policy makers, and change agents		"transformative intellectual" as advocate and activist	"passionate participant" as facilitator of multivoice reconstruction
Training	technical and quantitative; substantive theories	technical; quantitative and qualitative; substantive theories	resocialization; qualitative and quantitative; history; values of altruism and empowerment	
Accomodation	commensurable		incommensurable	
Hegemony	in control of publication, funding, promotion, and tenure		seeking recognition and input	

Appendix D

Comparison of approaches to survey data collection techniques, adapted from Robson (2002, p. 237). The *last column* on group interviews is based on *my personal experience* with the subjects in the group interview.

Aspect of survey	Self-completion questionnaire	Face-to-face interviews	Telephone interviews	Group interviews
Resource factors				
Cost	LOW	High	Low/medium	Low
Length of data collection period	Long	Medium/long	SHORT	Long
Distribution of sample	MAY BE WIDE	Must be clustered	MAY BE WIDE	Random stratified
Questionnaire issues				
Length of questionnaire	Short	MAY BE LONG	Medium	May be long
Complexity of questionnaire	Must be simple	MAY BE COMPLEX	MAY BE COMPLEX	May be complex
Complexity of questions	Simple to moderate	MAY BE COMPLEX	Short and simple	May be complex
Control of question order	Poor	VERY GOOD	VERY GOOD	Very good
Use of open-ended questions	Poor	GOOD	Fair	Good
Use of visual aids	Good	VERY GOOD	Not usually possible	Very good
Use of personal/family records	VERY GOOD	Good	Fair	Poor
Rapport	Fair	VERY GOOD	Good	Very good
Sensitive topics	GOOD	Fair	Fair/GOOD	Fair
Data-quality issues				
Sampling frame bias	Usually low	LOW	LOW (with RDD)	Low
Response rate	Difficult to get high	Medium/VERY HIGH	Medium/High	Medium/Very High
Response bias	Medium	LOW	LOW	Medium
Control of response situation	Poor	GOOD	Fair	Good
Quality of recorded response	Poor	GOOD	Fair	Good

Appendix E

Reproduced from the IB *Vade Mecum 2000, Internal assessment, predicted grades, audio recordings* (2000, page F7)

Excerpt from Section F, Internal assessment (IA) and Predicted grades (PG)

F 4.3 Standard sampling procedure: entry of more than five candidates
Submit the required internal assessment work of five candidates selected as follows. The final marks are those entered for candidates on the IA/PG mark sheet submitted to IBCA.

One candidate with the lowest mark achieved that is above the possible minimum.

> Examples: If zero is the minimum mark, the lowest mark above zero. If four is the minimum mark, the lowest mark above four.

One candidate with the highest mark achieved that is below the possible maximum.

> Example: If 30 is the maximum internal assessment mark, the highest mark below 30.

Three further candidates with marks equally spaced between the two candidates identified above.

> Examples: For a low mark of 6 and a high mark of 28, find the middle mark, (6 + 28) / 2 = 17

> Then find the mark halfway between this middle mark and the low mark, (6 + 17) / 2 = 11.5

> Similarly between the middle mark and the high mark, (17 + 28) - 2 = 22.5

> Round these marks to the nearest whole number, to provide three marks 12, 17 and 23. Select the three other candidates as close as possible to these three marks.

If the number of candidates, or their mark distribution, makes it difficult to follow this sampling procedure, then apply the principle of selecting as wide a range of marks as possible, avoiding any internal assessment work that is worth no marks. If possible, also avoid including internal assessment work that is given the maximum mark available.

Appendix F (a)

Letter to Parents

March 13, 2000

Dear Mrs.(Dr.)… & Mr.(Dr.)…

Sub: Request for participation in a dissertation study

I am currently pursuing my Master's in Educational Management through the University of Sheffield, UK and my dissertation is titled "A Strategy For Enhancing Student Effectiveness: A Case Study On the Role Of Career Education In An International School". The purpose of this study is to arrive at an overall policy for career education in the school by examining the factors that influence the career choices of the students.

To obtain the data for my study I propose to interview six students and their parents. I would like to interview you, and your son/daughter … in school, at a time and location that is convenient to you after the Eid holidays. It is estimated that the interview may take about an hour.

Although this is not an EIS instigated or sponsored activity, Dr. Daryle Russell and Dr. David Shore have kindly given their permission to carry out the research. I would appreciate your voluntary participation and be grateful if you could consent to join in this study by signing in the tear-off slip below.

Meanwhile, if you have any queries on this study please contact me at school (04-……) or at home (04–397 6969).

Thank you in advance and anticipation.

With warm regards,

Sincerely yours,

(Bala Swaminathan)
PHYSICS TEACHER

We have no objection joining in the dissertation study outlined above.

_____   _____
(Date)   (Signature)

_____   _____
(e-mail)   (Parents of ...)

Appendix F (b)

Interview Protocol

1. Have you chosen a career path?

2. When did you make your career decision?

3. What were the factors that influenced your career choice?

4. Who helped you choose your career?

5. Do you think the school has helped you make your career decision?

6. What sort of (additional) help would you have liked to receive?

7. Have you had any work experience related to your career choice?

8. Have you made any changes in your choices over the past three years?

9. How do you plan to achieve your career goals?

Appendix F (c)

Received: Tuesday, January 23, 2001 4.23 PM
Subject: Follow-up on Interview's for my dissertation

I've taken that online test you wanted me to. I'm not too sure how accurate it is... it came up with some pretty preposterous things...

Results from Irfan's College Board Career Questionnaire

```
 1  1031  Health services managers
 2  1021  Electrical and electronics engineers
 3  1021  Civil engineers
 4  1011  Aerospace engineers
 5  1011  Industrial production managers
 6  1011  General managers and top executives
 7  1001  Budget analysts
 8  1001  Funeral directors
 9   991  Engineering, science, and data processing managers
10   991  Management analysts and consultants
11   981  Financial managers
12   981  Education administrators
13   981  Government chief executives and legislators
14   981  Hotel managers and assistants
15   971  Marketing, advertising, and public relations managers
16   971  Restaurant and food service managers
17   951  Mechanical engineers
18   941  Property and real estate managers
19   941  Purchasers and buyers
20   941  Industrial engineers
21   941  Retail managers
22   941  Chemical engineers
23   931  Personnel, training, and labor relations specialists and managers
24   931  Accountants and auditors
25   931  Administrative services managers
26   921  Construction and building inspectors
27   881  Employment interviewers
28   851  Inspectors and compliance officers, except construction
29   841  Underwriters
30   821  Cost estimators
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Appendix F (d)

Received: Saturday, April 14, 2001 6.16 PM
Subject: Transcript

Irfan's transcript, including his e-mail validation

I'll edit the transcript in the following manner: I'll copy a given question and answer, then I'll write a short paragraph at the end of the copy to express any differences in my point of view or any clarifications that should be made.

Self: "So you remember the letter?"

Irfan: "Yeah"

Self: "So what I am going to do is briefly tell you about the plan for this interview. First, are you familiar with the distinction between a career and a degree?"

Irfan: "Yeah."

Self: "So I don't have to go through that which I did for the others. You know what the difference is. I am going to just ask you some questions Irfan, and based on that, I should be able to understand the issue of career education".

"Now I want to listen to you as far as possible, but I will still ask you some questions just to guide you, and also make sure I have all the information that I'll need".

"First question, **have you chosen a career path?**"

Irfan: "Yes and no. Very much so now that its what I would like to do, pretty sure it is in the along the lines of research or just academics in general, or something like that. And getting at that I wanted to be more of an engineer and that's what I like. Every day there's a schedule, do that and I'm a lot interested in that kind of thing".

EDIT: You seem to be missing some words that I would have added in, but that's OK. I'd like to clarify what I mean by "I wanted to be more of an engineer and that's what I like." I enjoy the purer aspects of academia and research, but I also enjoy the opportunity of developing a complete, working, finished product. I have only recently begun to appreciate the true differences between engineering and the sciences, and though I still find both extremely interesting, I must say that I enjoy the purer, more theoretical scientific work.

Self: "And now this question is more involved, **what really were the factors that really helped you in the career choice?**"

Irfan: "What started me off along this path as it were was my uncle and like my introduction to computers. And that took me to math I think, and physics I think. And also it was not like under any guidance and it was more like I internally I liked this and then when I started school, it is just that, things just kept on working really well, especially with math and physics - I found that I was influenced. My parents were supportive, they knew that it was what I wanted to do, and were very supportive. They weren't like okay you were doing electrical engineering; so you cannot really do research, or whatever. They weren't keeping it separate. They actually said keep your mind open. Are you sure you like doing this? They helped me see that picture. In terms of school based help there wasn't that much, I really have to admit - but it was it was really like the seeds that were sown in Grade 7 and Grade 8".

EDIT: I still agree with this statement, the seeds really were sown sometime around Grade 7 and 8, even before in fact. My uncle was a major influence in getting me interested in computers. He essentially taught me how to program, but it was my parents who really supported me in my decision to enter the more theoretical fields of Math and Physics. That decision was not made on the basis of any strong external influence. Most people took it for granted that I would be an Electrical Engineer. I discovered Math and Physics for myself, and though they did initially grow out of my interest in computers, they have become much more than subsidiary tools intended to help me understand how computers work. It has been a little difficult adjusting to the fact that a career choice that I'd been so intent on for so long, that of electrical engineering, is not the choice I intend to make. My parents found this particularly difficult at first, they were worried that I would fall into the trap of uncertainty, but they were quickly reassured that I'd actually found what I want to do on my own terms.

Self: "**When exactly did you make this career decision?**"

Irfan: "I decided that I wanted to do engineering and physics and math, particularly at grade 9 about four years ago. And that was probably my uncle before. And I had stayed with him, and that's like what helped me make the choices for my IB courses because electrical engineering means I have to do math and physics, and during the IB course then I kind of realized that I kind of liked math and physics more that I was more interested in rather than actual engineering. Of course I am open to more purer aspects".

EDIT: This is fairly true. I knew that I wanted to follow a career that would be computer extensive at an even earlier point of time, when I was around 9 or 10 I think. I decided to focus more on physics more recently, sometime within the last year, after leaving high school.

Self: "We will get back to this question".

"**Who helped you choose your career?** You mentioned your uncle, significantly."

Irfan: "Probably, also my parents, and also the teachers, Mr. Y (laughter)".

EDIT: We may have laughed over this point, but my teachers, especially you, Mr. Y, and Mrs. Z really did offer me quite a lot of guidance and encouragement.

Self: "Okay. Now this again is very important, because I want to really understand the issue properly. "**Do you think that school has in any way helped you make your career decision?**"

Irfan: "Not helped me make it, but allowed me to kind of understand what is involved in it. You know what I mean. I had already made a decision, but I was not entirely sure if it was the right one, and it kind of helped me in that aspect. Once I knew what I wanted to do, I knew where to go it helped. But in terms of before that, it did not really much. It did not help me find what I wanted to do. I remember particularly, grade eight, when we had to make choices for the, IGCSE my mom actually introduced me to the concept of having to choose something that will help you in your future career especially in the IB, and the school did not really put emphasis on that, it was more like what do you do best, and what do you like doing, and it was not really like how do you think this will affect you in your future. But the school on a more individual, when I met the teachers individually, it was always, like what do you do, why don't you consider doing that. Why don't you try this, consider doing that. But as a school, in a more organization or an official thing, it wasn't much help at all".

EDIT: My first point is still valid, even more so in the university environment. Only recently have I understood what is involved in Electrical Engineering and how that differs from Math and Physics. The school, as an organization, did not offer any guidance in choosing a career. There is a distinction between this and my implications of an "individualized" school. The teachers and individuals who form the school did offer some career guidance, though it is truly my parents who first related my choice of subjects to my eventual career. My brother Anis is going through an identical process now as he makes his choices for the IGCSE.

Self: "If given that, **what sort of additional help do you think you would have liked to have received** - after eight or nine or twelve, whatever?"

Irfan: "I guess just to know like that how significant the choices I make here, are. Because IGCSE had this misconception that they were very significant. And that if I chose the wrong things that would be it. And it wasn't really the case, especially in IGCSE".

        But in IB may be there was not enough emphasis, I did not have that much of problems, but I know M he started off doing one thing and he took completely the wrong subjects he took economics and psychology when he should have done physics and chemistry, and ended up with a great problem. So I would have liked a lot more subject specific guidance. Like if you wanted to be an engineer, if you wanted to do literature, if you wanted to be a veterinarian or whatever, you should seriously consider this, this and

that you know something like that. And also guidance like out of school, things like I don't know books to read, or videos to watch, or things like that extra stuff, to help you get the feeling of what you are trying to get at. May be also it would have been useful to - to know about how universities work, what they expect of you, how the whole process works. I only had to figure that out recently".

EDIT: My most significant point in this whole answer is the last one. What our school most severely lacked was an introduction to the expectations of Universities. There was no correlation made between our IB choices and our Universities. The idea of subject specific guidance: "do this if you want to be this" is quite important, but it must be made clear that to a certain extent, the choices made at the IB are not critical to career choices in the future. In the case of Electrical Engineering, it would have been essential to study Math and Physics at the higher level in IB. I could have chosen anything else for my other subjects.

Self: "Can you elaborate on that? What exactly"?

Irfan: "Well, I guess the structure of the university. It's like you don't end up taking just the subjects you really want until the very last few years. I did not know that. I always thought that I could generalize now, and then, later it will only be that. It turns out that I can generalize pretty much all the way through, Also that, I don't know, it strikes me as funny, they have this concept that they give you homework at the university, I had always had the conception that you have tests and you have essays and things, and really did not have any homework. I figured out they did. May be if you have been guided a bit more, it would have been useful".

EDIT: I guess I was just a little naive in high school, though it is true that I did not have a clear idea about University as I left high school. More preparation would have been nice.

Self: "Considering you said you wanted to do engineering, you said pure physics, math. Things like this, you don't really know. I should have also liked to consider it".

          "**Have you done anything about this over summer or any other time, any work experience**?"

Irfan: "It happened with the extended essay. That's when I realized that research was a lot more than just this, this and this. Actually I did, I went, I visited some universities, I went together with my uncle, to the IBM Research department and actually that that was very significant because he told me that not all the people working there are electrical engineers, on the contrary most of them have degrees in math and physics, - especially math, because a lot of it is math, so I was like wow, I did not have to be an electrical engineer to work somewhere like IBM, or help somewhere in manufacturing computers, I could do math, I could do physics, and this is actually something I would have really liked to know some three years ago! You don't need to do electrical engineering to work

with IBM say".

EDIT: I think the main reason I didn't have any work experience was because I was in Dubai. There are very few opportunities for such things in Dubai. There are stories of people here, at MIT, who have already undergone several internships with institutions like NASA and IBM. These opportunities simply don't exist in Dubai. It really was the extended essay that got me really interested in research. It is a good thing that the IB maintains an extended essay requirement.

Self: "That happens in the United States. That's one reason why you have a shortage of good physics and math teachers in schools because they prefer working for the industry".

"**Prior to this, in 11, 10 & 9 have you had any kind of work experience?**"

Irfan: "There was actually, there were a few, when we had a laptop and I had a lot of time on my hands".

EDIT: I had work experience with an exhibition company that my mother worked for. I designed some of their graphics for them and did some work on their web page. That did not really relate to math and physics, but was just part of my general interest in computers.

Self: "There was some idea, the whole transition from IGCSE, and to the IB, it is a significant change for most people, and that is the time that you change of subjects, which you probably do badly, **have you had any changes to you plans over the last three years?**"

Irfan: "Yes, I wanted to do chemistry in Grade 11, I really wanted to do chemistry and I also did want to do Economics. But now I rather that I'd done that. I never did chemistry because the chemistry experience was very tense. The teacher we had it didn't go very well he didn't manage to finish the syllabus. There were holes in the syllabus and I didn't want to have a repeat of that. That teacher was teaching Higher level and so I really didn't want to do that. But I wanted to do it just that I didn't do it. And actually now realize that had I done chemistry it would have been a lot better".

EDIT: In retrospect, I'm glad I didn't do chemistry at high school because I had the chance to do it at University. My chemistry class here was extremely interesting, and the teacher was very actively involved in his lectures and explained things with a true love for the subject.

Self: "Ok now, considering we were talking about eventually ending up in research in the States.

How exactly do you plan what was your career path and how do you plan to get there in terms of the courses you want to do and all the rest of it?"

<u>Irfan</u>:   "Actually, that is really very involved yeah. Because now I have three things on hand. I want to do electrical engineer. Well, first I didn't really know how universities really worked. I went to Austin because that was where my family was and I looked at the University of Texas. Then I went pretty much OK that's fine. Then I got an email from one of my friends, they said how about Rice at Houston. So I went and I looked at Rice and it was a lot higher-level institute, I was like, I was really interested especially when they said that undergraduates can get into Research. I was like OK as long as I'm applying to Rice might as well apply to another big name and I applied to MIT and I got accepted in Rice and that was really good. I was really fixed on going but then I got accepted into MIT. So it was really a turn around and everybody said you're crazy, I've to go to MIT. But that pretty much guided itself yeah but when I got into MIT. I got thinking because that's when I got all this academic information. How things work in a university like the concept of a major and everything. So then I started considering continuing in physics and math. So I had these three things in so I really wanted to do a double major. And I was thinking how will be electrical engineering and math, or and undergraduate ok. Then I'd probably being very ideal, but like Maths and physics, or maybe just physics in Masters, and then Ph.D. Because the way I kind of, I would like to do research in maths and physics, and I would like to know the underlying elements of electrical engineering as well, so by doing the physics and the math, and the higher graduate level, I'm able to do more research. But on the undergraduate, I'd have to like focus on the understanding of electrical engineering. Because also because, like electrical engineering, most of the fundamentals are physics".

EDIT: I recently attended a physics open house for interested physics student, and there was a physics professor who claimed that he never obtained an undergraduate degree in physics, but went on to do graduate work in physics (he actually had a bachelor's degree in music). I think it is up to the university and not the high school to clarify the distinction between degree and career. It is quite possible for one to get an undergraduate degree and still manage to get an unrelated graduate degree. Now that I'm in University, however, I think that studying Math and Physics at the undergraduate level would be more effective than trying to cram everything in. This is particularly true considering that I would like to go into research where a fairly solid understanding of the basics is required. That said, I would enjoy appreciating the field of engineering a little more, though there is very little time available for such experiments in education.

<u>Self</u>:   "It helps too, because I have also seen that when I was instructed by a teacher who was just an academician, physics or chemistry or whatever their vision or their background was so different from the person who actually came in from the industry. So it was so different sitting in their lessons because they give you so much of information of relevance that it certainly inspires you to study with those people. So basically I have got some kind of an idea about how and why you've done this Irfan but considering the letter you've received and considering you know the statistics today where they're saying an average person would change careers at least four times in his life span, and jobs eight times. I don't know where those statistics come from".

Irfan: "Yeah but actually its kind of true probably I was like three or four or five I don't know they had this book and one page of this book it had all the possible jobs that was a children's book. I would like to be when I grow up..., and you circled one. And I looked at this whole list, I came up with three things: farmer, fireman, and a pilot. My reasoning was I am a farmer but I can get bored, I like the outside but I'll just get bored I didn't do that. I am a fireman but I could get killed I am a pilot but I'm scared of flights so I didn't do that. So these were my three career choices you see".

EDIT: I still tell that story. I think that it is essential that one find what one is truly interested in doing early on. Narrowing down career options to two or three paths would greatly help in making decisions in high school, at university, and in the future.

Self: "But even in the working career it is significant but that's how it is".

Irfan: "I read the story for the orientation for MIT, they had stories up and one student said he wanted to do chemistry and then he changed and he wanted to do something else and in the end he ended up doing English literature. You see it was very interesting."

"And what caused that was nothing more than just the professors talking to the student and convincing them and the student finding something that he hadn't known existed before and he was falling on it".

EDIT: I'd like to point out that this is another instant where the school (even the university) as an institute does not manage to correctly guide a student, but where an individual professor or teacher (perhaps by chance) manages to make an impact on a student's life.

Self: "Absolutely, often times that's the case".

Irfan: "I wonder, I don't know how much high school's can actually do something towards but kind of giving you the whole picture and there's so much out there especially like the Grade 11 stage and all you see is high school but it could help a lot of people especially in University when you can't waste so much time when you can't waste so much money. Time is money".
EDIT: No time is not money... It's not a waste of time to explore one's options. The problem with high school may be that one is not exposed to these different options at a sufficiently sophisticated level that one begins to imagine what kind of career these options lead to. It's one thing to study English literature in school, it's another to study it in university, at a level where the mindset and way of thought of an English literature career can be experienced.

Self: "So you do believe that some help but the extent you don't know".

Irfan: "I don't know the extent to which it can be effective because you're talking at a stage where you don't really understand what's involved and how much you really like it whereas in University it's like yeah the first year you're pretty much allowed to

experiment so you can seriously take a course but in the IB you can't take a course for half a semester of chemistry and then say that you don't want to do it now whereas in the University you're a lot more open. So I think definitely no matter how much guidance you're going to end up with a few things and actually no I like that more and just because they tried it and before they never got a chance".

EDIT: There's a fine balance here. High schools don't offer you the opportunity to be modular, to experiment with different subjects and disciplines. On the other hand, high schools should not fall into the trap of being too modular. The lack of overall structure to consolidate a student's choices would probably do the student more harm than benefit. It is necessary to be flexible, but to still guide the student. The A-levels, for example, over emphasize the need to choose a career at such a young age. The level at which the A-level subjects are taught is not sufficient to allow a student to appreciate what his chosen career truly implies. That can only really begin to happen at a university level I believe.

Self: "That's interesting!"

         "Any other suggestions you have Irfan or any ideas you have? How would you think any policy or change might be effective"?

Irfan: "A policy?"

"A policy" would be good because there is none in our school".

"Some students just don't really give it a thought. May be just awareness like you are going to University and you are going to have to make a choice of some kind how about considering this at this stage because many people don't even think about it until they come down to applying to a university and then it is like you've chosen my courses already and then they can't really change. May be just awareness helps because they must think about it and just to think about it will guide you talk about it and somebody will answer your question".

EDIT: The need for awareness is quite important. It was never clear, starting the IB, that a year and a half down the line I would be applying to universities, and that universities would be looking for this and that. This is particularly true of British universities where, if I remember correctly, you were required to declare a major at the admissions stage and were required to take several A-levels and obtain certain minimum grades. In such cases it would be essential that the high school offer university level career guidance at the grade 10 level. This is not feasible however, as it is impossible to expect anyone to fully, or even partially, appreciate what the inherent characteristics of a given career are, and whether or not such a career matches the student's interests.

Self: "Which is an appropriate stage you think is right in your opinion?"

Irfan: "To introduce the concept of considering the career you're going to take because like advertising and introducing the concept that cigarette is bad for health so that people

start thinking about it because many people go straight through and end up saying what am I doing? Okay. And definitely in the IB to get to the stage where you're like okay so may be give us three possibilities or four possibilities where would you like to go you know and these two or three subjects are what you must take or how about Art. Perhaps it is even better that at the end of Grade 10 when you're making the choices for the IB you're given guidance. If you're very interested go here or here in summer go get this book and look at that look at this over the summer because next year before it's too late if you change you're mind you would have like an educated background you know like a basis for the choice because my basis was computers. I mean I had done programming and was in a way like an educated background. But if it had been more guided you know and if somebody had told me you know go open this chemistry book and look what do you think you know would you like doing this next year then it probably would have helped make the choices because at that stage it was not too late, etc.".

EDIT: Yes in the case of the British system, grade 10 might be a good time. The American system, however, places more emphasis on career choice in university I feel, though by all means an appreciation of the kind of work involved in a given career would be great at the high school level.

Self: "I was just looking at the system and the grade 10's are still doing their exams but they're going to go on quite late. I know they've made their choices as early as March but those can change. So any kind of discussion after they finish their exams while the teachers are at school perhaps have some evening".

Irfan: "May be not even the teachers but may be just are you going to this country you know you might consider just dropping by this place and they may have something that may interest you".

EDIT: I don't know how effective advice of this nature can be. I can easily identify certain problems, but I can't easily provide solutions. Clearly students need more guidance, but most students are blind to this need. Many students probably don't want to face the decisions they need to make, and advice like "drop by this place or read about this or that" may not be really helpful. Perhaps the best place to start would be at home. Having parents persistently ask questions like: "What are you thinking of doing?" "Would you like to find out some more about?", "WHY are you interested in exploring this or that career option?" The question WHY is far too rarely asked. It would be important, however, that the parents (and perhaps the school) ask such questions without placing an overwhelming amount of pressure on the students. They should come to their decisions naturally, and should explore their options on their own free will. I question the effectiveness of "professional career centers" as you put it. Unless the student is willing to explore he or she may not really find anything.

Self: "These things do tend to cost money if you have a formal professional careers center".

"Last week while browsing the newspaper, I read that they've set up a careers center in the Abu Dhabi's women's college at the Higher Colleges. Apparently, it cost them a fortune for setting up the whole thing. You just said, you know that you can only do so much and no more, is it worth spending all the money on establishing a program"

Irfan: "And is it worth it if the students are going to leave the country at the end of it".

Self: "Yeah".

EDIT: This could be a serious problem in countries where most of the student body is expected to leave and find a job elsewhere. Also, career guidance in places like Dubai is quite limited. There are very few resources available for people interested in fields   like research and engineering. The centers would not be effective at allowing the students to fully appreciate what is involved in the jobs they are interested in. The lack of diversity in summer internships is an example of such a problem.

Irfan: "Money is again the core problem. That's my opinion on this and people who pay the money they've got to think for the students benefit. And at the end of the day it is the Institution's benefit because I would rather go to a place that will guide me in later years than go to some place else which does not. Again they're not going to be without taking the benefits and charge people for the service which would be contradictory but it is another cause it's like I don't know why do Universities offer canteen food and it is convenient".

EDIT: I'm not sure what I'm talking about here! Probably going off on a tangent, criticizing the problems inherent with money. I don't think money is the central problem with career guidance, perhaps students are not too interested in exploring their options or are not introduced to the concept of exploring their options. It is also quite possible, as is the case in Dubai, that students are not really surrounded with the opportunities to explore their options.

Self: "In the West you know education is state supported the state supports it".

Irfan: "Yes and you take it for granted and if it is not there you worry what happened".

EDIT: This is true, people take thing for granted and then complain about them. People think that the American education is horrible, it isn't. Americans are given choices, and though some high schools are better than others, many Americans are given the opportunity to go as far as they want to. For example, many students here at MIT took university level courses in High School. Such opportunities do not really exist in Dubai.

Self: "And if you really look at what's available in the States or UK, may be only those people who are passionate about something eventually get into it. That makes the difference in the final outcome. And here education is viewed as a cash cow".

Irfan: "And for many students here education is all we have to do for our parents there is no motivation. No personal motivation at all and if there is no personal motivation for education they're not even thinking about a job they're thinking just how can I get out of school".

EDIT: Exactly! This is one of the problems, personal student motivation. When there is motivation, students can do great things. When there is a passion for learning, and a deep internal yearning to explore education then people begin to ask questions about career and the future.

Self: "Going to school is more like a social event".

Irfan: "Yeah. Like at the graduation for example many people were saying that they were free. What I was thinking was free from what? You were never trapped, you were never forced to do anything and it's not like you're free in terms of what they're saying. You're going off to do even more. You're free to do more".

EDIT: Again, perhaps the mindset towards education needs to be changed before the available resources and support bases need to be changed.

Self: "Exactly. I think that they must be referring to the fact that they're free to dress the way they want, no uniforms and so on".

Irfan: "Superficial things like that".

Self: "But they certainly go out and they realize, hey what do I do now".

Irfan: "For me for example I do not want to say what should I do I have lots of things to do".

EDIT: There certainly are many things to do, and not enough time to do them. It is a serious problem when people enter the more pressurized environment of university thinking that they are "free" in the sense that they can do whatever they want. The separation from home only intensifies this illusion. Yes, people are free to do what they want, but freedom without responsibility is like life without gravity. It's a lot of fun at first, but if you push a little too hard, you'll fly off, and you'll find it very difficult to get back.

Self: "Exactly. But it's a pity but I suppose that you have all kinds of people but in general as you say it is nice to have people interested in something".

Irfan: "May be with the IB program unlike the A-level things like that which are good at you know. May be if the school would be more selective. I don't know whether they can. But then you got money coming in again like take whoever comes but at least in higher level subjects like physics if you have to do physics higher level then you must do maths higher level. They do that in other places".

<u>Self</u>:   "I know we have been taking about this but we always have polarized group. Sam is leaving. That's great Irfan. Thanks a lot for your time".

<u>Irfan</u>**:** "I don't think that having a more selective school is the answer. Perhaps guiding students more actively is the answer, emphasizing the need to make decisions, and giving students the opportunity to reevaluate their decisions. Perhaps it is important that schools not only check that a student has a career path but also ask the student WHY he has chosen the career path, or that forces students to think long and hard about what they are doing".

EDIT: "Hey, I just had an idea. Given that it is important to make students think more deeply about their decisions and reflect upon their choices, perhaps forcing them to complete certain tasks that promote introspection would be appropriate. Requiring students to write an essay describing WHY they have chosen a career path, sometime around grade 11, would have many benefits. The students would be forced to think deeply about their choice. Teachers and guidance counselors would be given access to the student's point of view and decisions in writing. It should be easy to tell which students have thought of their decisions, and which students are in need of help".

"Thanks for sending me the transcript, it has been interesting thinking about education and career guidance. I hope my comments meet your expectations".

<u>Appendix G</u>

Elaborate Matrix Of The Subjects' Extempore Responses To
The Interview Protocol

Appendix H (a)

Alumni Questionnaire

The Alumni were asked to write a few lines on each point.

1. Initial experiences in your University,

2. Opinion on the courses offered and the Faculty,

3. Most daunting task you had to face before and on getting into University,

4. View on what kind of predominant qualities you think will be beneficial for a student who wishes to study there,

5. Future plans and how your University/Faculty have helped you make decisions,

6. On-campus/Off-campus housing,

7. How does one acquire a driving license and credit cards?

8. How easy is it to open a bank account and manage your financial matters?

9. The social life and extracurricular activities.

Appendix H (b)

Student Responses (responses to questions 1-5 only included here because of their relevance to the Interview Protocol).

Jan

5. No one really helped me. You have to do research yourself.

Kent

4. Open minded with the people that you are going to meet.
5. Become an excellent computer graphic designer, and own a private Ad. Company. No the faculty didn't help me, I knew from the beginning what to do with my studies.

Larry

1. One has to take responsibility of their life
3. Too much freedom can be trouble.
4. Carefree, confident.
5. Counselors help you get your ideas/goals in life that suits your interests.

Mira

1.   Anxious, intimidated and excited.
2.   Applying and choosing a college, adapting and settling in.
4   An open mind, curiosity and willingness to be able to accept anything.
5.   None yet.

Nancy

3.   Worrying about being away from friends and family.
4.   Confidence, good social skills.
5.   Probably marketing, public relations.

Omar

3.   The actual process of choosing the right university and settling down.
4.   Sociable, smile! Be nice and outgoing, quiet when needed.
5.   Graphic designer, they helped me enjoy my choice and expand my horizons.

Pia

3.   Most daunting task for me was learning to manage my time and discipline myself to be able to live on my own, and study independently.
4.   Be open to different kinds of people from different kinds of cultures, don't expect it to be amazing and don't expect to make millions of friends – be realistic and you'll have a great time.
5.   Study medicine – my university hasn't really helped me make that decision.

Quila

1.   I believe that you should have an open mind about the first things you see and the people you talk to. Therefore, I was very confident and calm about everything. I spoke to a couple of students, both new and old and also some of the faculty that helped me set up my schedule.
4.   A student should be very open-minded with whatever and whoever s/he encounters.

Rita

1.   The first university I went to in Dubai was fake (it was not affiliated with a University in the States, so I wasted a lot of money and time without getting anything out of it), i.e. don't go to South Educational Institute.

Sandra

4.   Have to be open-minded, makes meeting people and enjoy class easier. Since going to class is up to you – have to take the initiative.
5.   Counselors, career centers, etc.

Tom

4.   Hard working, independent and social.
5.   To go into medicine, get academic advising.

Urvashi

3. Learning to live in a tiny room – with most basic amenities in my first year was probably one of the most memorable experiences!
    Two most important things that I learnt (a) cooking and cleaning for yourself (b) budgeting yourself – very very important.

Victor

5. Major in mechanical engineering, with which the university counselor has helped a lot.

William

3. Getting to know London, living alone.
4. Be open; do not become emotionally involved with friends or 'others' too soon.
5. Master's degree in communications. University helped me to realize my strong points.

Xi

3. Getting in, it was difficult as it needed really good grades.
4. A smile will be great.
5. Studying architecture and the teachers are amazingly helpful. More like friends.

Yasodha

3. Getting all the recommendation letters, and transcripts together, and applying for the appropriate course.

Zeus

2. Faculty is amazing, it's like they are your friends and not teachers. No offence, high school teachers but professors are better in my opinion.

Appendix I

Key factors that influence career decision-making
(Compiled from a study of the career education literature)

Personal (Influence by the home)	**Social** (Influence by the community)	**Institutional** (Influence by the school)
1 Goal orientation	1 Role model in society	1 Role models at school
2 Personal attributes	2 Desire to be a role model	2 Special personal relationships
3 Interests	3 Cultural differences	3 Challenging high school curriculum
4 Aptitudes	4 Socio-economic status	4 Extensive pre-college preparatory program
5 Attitudes	5 High family mobility	5 Internship/work experience
6 Abilities	6 Opinion of peers	6 Peer network
7 Skills	7 Mass media	7 Opinion of teachers
8 Strong self-confidence	8 The Internet	8 Teacher encouragement
9 Parental support and attitudes	9 Social prestige	9 Learning experiences
10 Family support	10 Career ladders	10 Interesting high school classes
11 Gender stereotypes	11 Occupational salary structure	11 Organizational dynamics
12 Job satisfaction	12 Population growth	12 Clientele
13 Personal satisfaction	13 Patriotic motives	13 Facilities
14 Salary - monetary reward	14 Family occupation	14 Budget support
15 Working conditions	15 Type of work	15 Occupational information
16 Family occupation	16 Type of environment	16 Counselling
17 Religious beliefs	17 Social needs (self and family)	17 Quality and climate at school
18 Education cost	18 Security	18 Curriculum placement
19 Childhood interests	19 New lifestyles	
20 Household duties	20 World economy	
21 Family responsibilities	21 Books and magazines	
22 Working with people	22 Community resources	
23 Outdoor activities	23 Community discrimination	
24 Leisure interests	24 Non-college alternatives	
25 Level of responsibility		
26 Ego satisfaction		
27 Prestige		
28 Parent's level of education		
29 Math ability		
30 Personal beliefs		
31 Siblings		
32 Role models at home		
33 Motivation		
34 Race		

Appendix J

(Summary questions for data analysis and assessment as outlined by Miles and Huberman 1994, pp. 277-280, in the 'critical realist' tradition)

Standards for the Quality of Conclusions

According to Miles and Huberman, shared standards are worth striving for. The 'goodness' of qualitative work needs careful assessment. The five overlapping issues critical to a 'critical realist' are:

1. Objectivity/Confirmability of qualitative work

The basic issue here is to remain relatively neutral and free from unacknowledged researcher bias.
Do the conclusions depend on 'the subjects and conditions of the inquiry' rather than the on the inquirer?
The focus will be on external reliability, with emphasis on the replicability of the study by others

Relevant queries. Some useful questions to be asked about this issue are:

a) Are the study's general methods and procedures described explicitly and in detail: Do we feel that we have a complete picture, including 'backstage' information?
b) Can we follow the actual sequence of how data were collected, processed, condensed/transformed, and displayed for specific conclusion drawing?
c) Are the conclusions explicitly linked with exhibits of condensed/displayed data?
d) Is there a record of the study's methods and procedure detailed enough to be followed as an 'audit trial'?
e) Has the researcher been explicit and as self-aware as possible about personal assumptions, values and biases, affective states – and how they may have come into play during the study?
f) Are study data retained and available for reanalysis by others?

2. Reliability/Dependability/Auditability

The underlying issue here is whether the process of the study is consistent, reasonably stable over time and across researchers and methods. We can, in effect, speak of 'quality control'. Have things been done with reasonable care?

Relevant queries. What can be usefully asked in this domain?

a) Are the research questions clear, and are the features of the study design congruent to them?
b) Is the researcher's role and status within the site explicitly described?
c) Do findings show meaningful parallelism across data sources (informants, contexts, times)?
d) Are basic paradigms and analytic constructs clearly specified? (Reliability depends, in part, on its connections to theory.)
e) Were data collected across the full range of appropriate settings, times, respondents, and so on suggested by the research question?
f) Were data quality checks made (e.g. for bias, deceit, informant knowledgeability?)?
g) Were any forms of peer or colleague review in place?

3. Internal validity/Credibility/Authenticity

The crunch question: truth-value. Do the findings of the study make sense? Do we have an authentic portrait of what we are looking at? Here, validation becomes the issue of choosing among competing and falsifiable explanations.

Relevant queries. Some useful possibilities are:

a) How context-rich and meaningful ('thick') are the descriptions?

b) Does the account 'ring true', 'make sense, seem convincing or plausible, and enable a 'vicarious presence' for the reader?'
c) Did triangulation among complementary methods and data sources produce generally converging conclusions? If not, is there a coherent explanation for this?
d) Are the presented data well linked to the categories of prior or emerging theory? Do the measures reflect the constructs in play?
e) Were the rules for confirmation of the propositions, hypotheses, and so on made explicit?
f) Are areas of uncertainty identified? (There should be some)
g) Have findings been replicated in other parts of the database than the one they arose from?
h) Were the conclusions considered to be accurate by original informants? If not, is there a coherent explanation for this?
i) Were any predictions made in the study, and how accurate were they?

4. External validity/Transferability/Fittingness

Do the conclusions of a study have any larger import? Are they transferable to other contexts? Do they 'fit'? How far can they be 'generalized'? Schofield (1990) usefully distinguishes generalizing to 'what is' (other actual contexts), to 'what may be' (sites in the forefront of some similar process) and to 'what could be' (outstanding or ideal cases).

Relevant queries. Here we may usefully ask:

b) Are the characteristics of the original sample of persons, settings, processes (etc.) fully described enough to permit adequate comparisons with other samples?
c) Is the sampling theoretically diverse enough to encourage broader applicability?
d) Does the researcher define the scope and boundaries of reasonable generalization from the study?
e) Do the findings include enough 'thick description' for readers to assess the potential transferability, appropriateness for their own settings?
f) Are the findings congruent with, connected to, or confirmatory of prior theory?
g) Are the processes and outcomes described in conclusions generic enough to be applicable in other settings, even ones of a different nature?
h) Does the report suggest settings where the findings could fruitfully be tested further?

5. Utilization/Application/Action orientation

Evaluation and policy studies in particular are supposed to lead to more intelligent action; whether or not they do, real people's lives are being affected, and large amounts of money are being spent (or misspent). 'The ultimate test of the credibility of an evaluation report is the response of decision-makers and information users to that report'.

Relevant queries. What are some fruitful probes to be made here?

a) Are the findings intellectually and physically accessible to potential users? ('A scientific report should be boring and difficult to read')
b) Do the findings stimulate 'working hypothesis' on the part of the reader as guidance for future action?
c) What is the level of usable knowledge offered? It may range from consciousness-raising and the development of insight or self-understanding to broader considerations: a theory to guide action, or policy advice.
d) Do the findings have a catalyzing effect leading to specific actions?
e) Have users of findings learned, or developed new capacities?
f) Are value-based or ethical considerations raised explicitly in the report? If not, do some exist implicitly that the researcher is not attending to?