

THE UNIVERSITY OF HULL

**Developing Entrepreneurship Education: Empirical Findings from Malaysian
Polytechnics**

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By

MOHD ZAHARI ISMAIL

B.Ec (Hons), National University of Malaysia, 1989

Diploma in Education, Temenggung Ibrahim Training College, Malaysia, 1991

Master of Business Administration (MBA), Northern University of Malaysia, 2002

Postgraduate Diploma in Research Training, University of Hull, 2009

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ABSTRACT

This study identifies empirically the effectiveness of the entrepreneurship curriculum used in Malaysian polytechnics. This includes an evaluation of the syllabus, teaching methods and lecturer training programmes. The study investigates the relationship between entrepreneurship education and polytechnic students' entrepreneurial tendencies. The needs of this research arise due to problems of unemployment amongst graduates and the inadequacy of research on entrepreneurship education. It also responds to the government's intention to achieve "Developed Nation" status in 2020.

The research, one of the most comprehensive ever undertaken in this area, comprises interviews and focus groups with students, lecturers, senior managers in polytechnics and officials from the Malaysian Ministry of Higher Education. In addition, the General Enterprising Tendency (version 2) Test (GETv2) was used with students to explore their entrepreneurial tendencies. Six hundred Malay-version questionnaires were randomly distributed to selected classes during a regular lecture period in 2008. After screening, a total of 506 questionnaires were deemed completed and usable: a response rate of 84.3 percent.

The study identifies that the entrepreneurship syllabus in polytechnics is not effective and students are not imbued with entrepreneurial knowledge, skills and attributes during their study. Teaching approaches appear to be inappropriate and polytechnic lecturers do not appear to have relevant entrepreneurial skills, knowledge or training. There are shortcomings in the way entrepreneurship education is organized and funded in higher education and cooperation and networking within the agencies, whether domestic or international, is low. The role of culture perceived to be of particular importance. Cultural factors such as gender, values, religion, family back ground and ethnicity are crucial issues which influence students' tendency towards entrepreneurship. These findings provide the basis for a new model of entrepreneurship development for higher education in Malaysia.

The contribution of the study is therefore to add to the body of knowledge on entrepreneurship education by providing empirical evidence from a Malaysian perspective.

IN THE MEMORY OF

My Dad, Allahyarham Haji Abu Bakar bin Salleh, who departed peacefully on the 7
October 2004, and

My adopted dad, Allahyarham Haji Ismail Hj Abdul Rahman, who passed away on
Friday morning, 21 July 2000

Thanks for all your love and sacrifices for us. Your deep love of your children imbued
in us a strong sense of intimacy and brotherhood.

May Allah have mercy on you and place your souls among those of believers.

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ABBREVIATIONS

ASCD	Association for Supervision and Curriculum Development
ANGKASA	National Co-Operative Organisation of Malaysia
CARE	Centre for Applied Research in Education, University of East Anglia
CASCADE	Computer Assisted Curriculum Analysis, Design and Evaluation
CELCEE	Center for Entrepreneurial Leadership Clearinghouse on Entrepreneurship Education
CDED	Curriculum Development and Evaluation Division
DUBS	Durham University Business School
DfEE	Department for Education and Employment
DG	Director General
DDG	Deputy Director General
DPCCE	Department of Polytechnics and Community Colleges Education
DPE	Department of Polytechnics Education
DUBS	Durham University Business School
ERP	Enterprises Resources Planning
ESRC	Economic and Social Research Council
EAO	Entrepreneurial Attitude Orientation
GETT	General Enterprising Tendency Test
GETv2T	General Enterprising Tendency version 2Test
HEIs	Higher Education Institutions
ILO	International Labour Organisation
KEDA	Kedah Regional Development Authority
MARA	Malay for Indigenous People's Trust Council
MIDA	Malaysian Industrial Development Authority
MoHE	Ministry of Higher Education
MECD	Ministry of Entrepreneur and Co-operative Development
NCGE	National Council for Graduate Entrepreneurship
OECD	Organization for Economic Cooperation and Development
PSA	Sultan Abdul Aziz Shah Polytechnic
PBL	Problem Based Learning
PPD	Port Dickson Polytechnic
PKB	Kota Bharu Polytechnic
POLIMAS	Sultan Abdul Halim Mudzam Shah Polytechnic
PSA	Sultan Salahudin Abdul Aziz Shah Polytechnic
PUO	Ungku Omar Polytechnic
PNB	Permodalan Nasional Berhad
SBL	Subject Based Learning
SIFE	Students in Free Enterprise
SME Bank	Small Medium Enterprise Bank.
SMIDEC	Small and Medium Industries Development Corporation
TVEs	Technical and Vocational Education
TEKUN	Tabung Ekonomi Kumpulan Usaha Niaga
UK	United Kingdom
USA	United State of America
UMK	Malaysia University of Kelantan
UNESCO	United Nations Educational, Scientific and Cultural Organization
9MP	Ninth Malaysia Plan (2006-2010)

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CHAPTER 1

RESEARCH OVERVIEW: JUSTIFYING THE NEED FOR THE STUDY

1.1 Introduction

This chapter will present the rationale for this research. It will explain why it is being conducted and why it is important to the Malaysian context. The problem statement identifies the key prompts for the research: a rise in unemployment, the need for economic development, human capital stimulation and entrepreneurship as a career option. This chapter will give an overview of development entrepreneurship education and the importance of entrepreneurship education to Malaysian polytechnics. The aim of this chapter is to provide clear research objectives, to define the research question and also to identify the terminology and organisation of the study. This issue will be examined in the context of the intended Developed Nation status of Malaysia in 2020 (Refer paragraph 6.3.3), the year by which Malaysia aims to achieve the status of an industrialised and developed country.

1.2 The Development of Entrepreneurship Education

The history of entrepreneurship education can be traced back to Shigeru Fuji in 1938. He was Professor Emeritus at Kobe University in Japan (McMullan and Long, 1990; Alberti *et al.*, 2004). The first entrepreneurship course was offered as an MBA course titled 'Management of New Enterprise' at Harvard Business School in 1947 (Katz, 2003). Peter Drucker taught another early course at New York University in 1953 (Brockhaus, 2001, p.XIV cited from Kirby, 2004). Babson College¹ introduced the first undergraduate major in entrepreneurship in 1968. By 1970, there were approximately 25 institutions of higher education in the US offering courses in the field. This number grew to over 150 by 1980, and by 1985 there were 253 (212 business, 41 engineering) schools with entrepreneurship courses located at 245 institutions (Vesper, 1985). According to Rajput and Murad (2008) entrepreneurship education was started in

¹ Babson College, located in Wellesley, Massachusetts, is recognized internationally for its entrepreneurial leadership in a changing global environment (<http://www3.babson.edu/About/>)

1970s, University of Southern California launched the first graduate and undergraduate concentration in entrepreneurship in early 70s. This is in line with Finkle and Deeds (2001) who claims that the University of Southern California offered the first entrepreneurship major at the MBA level in 1972.

In 1975, entrepreneurial education was firstly introduced in 104 academies and universities around United States of America. In 1983, the number increased to 163 academies and universities, and in the last five years, 90 faculties had offered entrepreneurial subject thus the total number became 253 (Donald and Raymond, 1986). By the start of the 1990s Solomon and Fernald (1991) recorded a dramatic rise in the number of US colleges and universities offering courses and programmes in the field from six in 1967 to 400 by 1990. Today that number has increased to over 500 in the US and schools are reporting a record number of students enrolling in such courses (Kuratko and Hodgetts, 1995). Today, entrepreneurship education has exploded to more than 2,200 courses at over 1,600 schools; 227 endowed positions; 44 refereed academic journals; mainstream management journals devoting more issues to entrepreneurship; and over 100 established and funded centres (Kuratko, 2005).

In addition, there are a few bodies that are responsible for developing entrepreneurship in the US such as the United States Association for Small Business and Entrepreneurship (USASBE)² and Kauffman Foundation³. The development of such institutions in countries as diverse as: Austria, Brazil, India, Malaysia, Singapore and the UK launched new entrepreneurship programmes between 1990 and 2000 (Dana, 2001). The further explanation in chapter 2 gives a brief analysis of the understanding of entrepreneurship education in selected countries.

² USASBE is the largest independent, professional, academic organization in the world dedicated to advancing the discipline of entrepreneurship (<http://usasbe.org/about/intro.asp>)

³ The Kauffman Foundation is among the thirty largest foundations in the United States to foster “a society of economically independent individuals who are engaged citizens, contributing to the improvement of their communities.” (<http://www.kauffman.org/>)

1.3 Entrepreneurship Education Development in Malaysia

1.3.1 The Nature of Entrepreneurship Research

According to Myrah and Currie (2006), there has been tremendous growth in the demand for entrepreneurship education in the last three decades. Sexton *et al.*, (1997) point out that there has been a contemporaneous increase in the number of seminars on entrepreneurship offered by private consultants and trade associations. Gibb (1996) and Garavan and O’Cinneide (1994b) stated that during the 1980s and into the 1990s, there was a substantial, worldwide growth of interest in entrepreneurship and small and medium enterprise (SME) development (Refer to Chapter 3, the development of entrepreneurship education). All of these claims illustrate that entrepreneurial education is a substantial agenda in developing both the economy and education of the nation. In addition, a survey of entrepreneurship education in higher education institutions (HEIs) in England found that entrepreneurship is a rapidly growing sector; the gross attendance at entrepreneurship courses increased by 23 percent between 1997/98 and 1998/99, while overall student numbers in higher education remained static. Yet only 38 percent of HEIs offer entrepreneurship courses (i.e. modules or electives), and only half of these (20 percent of the total population) have entrepreneurship courses attended by non-business students (Levie, 1999). However, in her review of the Green Paper on Entrepreneurship, Volery (2004) identifies lower levels of entrepreneurial activity in the European Union compared to the United States. Since entrepreneurship research has spread out from developed countries such as the United States and United Kingdom, Malaysia as a developing country, will inevitably have to take on the challenge of accelerating entrepreneurship education if it is to achieve status as a developed nation as envisioned in Vision 2020.

According to Golden-Biddle and Locke (1997) the rationale of research is that it aims to fill gaps in existing knowledge, where previous research may be incomplete, inadequate and incommensurate. In terms of scholarship on entrepreneurship a number of studies have found that little research has been conducted on entrepreneurship programmes, involving issues such as effective teaching methods, curriculum development and programme content (Plaschka and Welsch, 1990; Garavan and O’Cinneide, 1994; Hill and O’Cinneide, 1998; Brockhaus *et al.*, 2001; Falkang and Alberti, 2000; Hisrich, 2005) and research and knowledge about how to teach entrepreneurship remains

relatively underdeveloped (Kirby, 2004). However, the validity of this argument has rarely been tested (Schaper and Casimir, 2007). In addition, further research is needed to understand whether education influences entrepreneurial perceptions and intentions (McMullan *et al.*, 2002; Collin *et al.*, 2004).

Many international universities are currently offering entrepreneurship as a taught subject (Kolvereid and Moen, 1997), not only by business schools at the undergraduate and graduate levels, but also by other faculties, such as engineering and information technology (Garavan and O'Cinneide, 1994a; Leitch and Harrison, 1999). While the literature on entrepreneurship in Malaysia is still growing, studies on reasons why entrepreneurial careers are pursued instead of being employed in organisations are limited (Chong Siong Choy *et al.*, 2005). Therefore this study is designed as a response to the problems identified above; it will aim to address these issues via the entrepreneurship education approach. Finally more and better quality research is needed on all the pertinent aspects of entrepreneurship education to bridge the credibility gap (Matlay and Carey, 2007: p.260).

Fayolle *et al.*, (2006a) examined the variables of entrepreneurship education programmes such as institutional setting, content and teaching methods in their assessment of the impact of entrepreneurship education. Similarly, Schieb-Bienfait (2004) asserts that entrepreneurial course content, pedagogical issues, new learning approaches, characteristics of educators, and students require a comprehensive study to understand the effects of entrepreneurship education on students' inclination towards entrepreneurship. Content can be defined as a list of school subjects or, more specifically, as a list of topics, themes, concepts, or works that are covered. Purposes are the reasons for teaching the content (Walker, 2003). A main current research issue in the field of entrepreneurship education is to find out to what extent the entrepreneurship teaching programme (ETP)s influences students' attitudes towards entrepreneurial behaviour, entrepreneurial intention and behaviour itself (Hytii and Koupusjarvi, 2004; Moro *et al.*, 2004). Based on this framework, a rigorous study of the perceptions of polytechnic students towards entrepreneurship involving curriculum content, teaching methods, characteristics of lecturers, and methods assessment can be conducted.

1.3.2 The Economic Development of the Country

Entrepreneurship can accelerate economic growth as well as providing plenty of new job opportunities (Schumpeter, 1971). Entrepreneurship also gives access to creativity and new innovation in business or technology (Porter, 1990). There is an intense interest from policy makers and academics in stimulating economic growth through entrepreneurship, including entrepreneurship education (Gorman *et al.*, 1997). In addition, entrepreneurship creates wealth and reduces unemployment. Entrepreneurs contribute to industrialisation as well as to economic growth; they improve living standards and their tax revenues contribute to the treasury of a nation (Dana, 2001). This implies that entrepreneurship can be used to gear the development of a country's economy. Therefore, efforts will be intensified to develop knowledge workers who are competitive, dynamic and performance oriented (Malaysia, 2006). This will be discussed in detail in 2.3.3 in Chapter 2. To meet the objectives of Vision 2020 Malaysia needs active learners who have acquired the skills of problem-solving, independent thinking, and autonomous learning as well as the ability to work co-operatively (Lee, 1999: p.96). In other words, human development is the vital agenda in Malaysia as stated in Ninth Malaysian plan.

1.3.3 Shrinkage of Career Options and Unemployment among Graduates

One of the main social development problems facing the Malaysian government is graduate unemployment. There are four main issues concerning the employment of graduates in Malaysia. Firstly, rising unemployment among graduates; secondly, a mismatch between the skills of graduates and the requirements of employers; thirdly, the appropriateness of graduate employment; finally, the shrinkage of employment in the public sector and growth in the private sector (Annie Wong and Jamil Hamali, 2006).

Malaysia has achieved high economic growth rates since the 1970s. The growth rate of the real gross domestic product (GDP) per capita of Malaysia rose over the past decades (Wong Hock TSen, 2004)⁴. However, the new nation continues to face problems of

⁴ The real GDP per capita is computed as GDP divided by the GDP deflator (1995=100) and then divided by population. The data were obtained from International Financial Statistics, International Monetary Fund.

poverty and unemployment as well as income and economic imbalances among the various ethnic groups (Hussain, 1999: p.1) and current government publications and reports reveal this problem. For instance, according to the Bank Negara Report, the total number of unemployed graduates stood at 38,800 in 2001. By 2002, the number had risen to 45,400 (Annie Wong and Jamil-Hamali, 2006). A recent survey conducted by the Economic Planning Agency found that almost 60,000 graduates are unemployed (The Economist, 2005b: p.26; The Star, Nov 6, 2005; Yusof, Mohar, *et al.*, 2008).

One solution to this problem is through entrepreneurship (Bogenhold, 2004). He writes, it is being lauded in propaganda terms as the ‘medicine’ to cure stubbornly high unemployment is sometimes much more appropriately seen as the thermometer indicating how acute the sickness of unemployment really is. This is in line with the findings of previous studies in which entrepreneurship has been seen as a major source of job creation (Birch, 1979; McMullan and Long, 1987; Gibb, 1996) and economic development (Gibb, 1996). The Malaysian government considers involvement in entrepreneurship as a possible solution to the problem of graduate unemployment. This is because many economists and politicians agree that entrepreneurship stimulates the generation of employment opportunities and wealth creation (Dana, 2001; Garavan and O’Cinneide, 1994a; Kong, 1996). In addition, formal entrepreneurial education has been found to affect attitudes amongst university students in such a way that entrepreneurship is seen as a career option (Hansemark, 1998). In this context, entrepreneurship education may promote an awareness of self-employment as a career option; it is suggested that this awareness motivates young people to equip themselves with the skills, knowledge and experience required for effective business ownership (Flemming, 1996).

In view of this, higher education institutions need to nurture the development of these skills among their graduates. As such, the current curriculum and performance assessment of students should be reviewed to ensure the mastery of generic skills. New subjects, courses and programmes should be designed or improved to incorporate the development of these skills so as to ensure that their graduates can learn and adapt rapidly to changes in technology as well as meeting market demands for new skills. In this regard, public institutions should be given more flexibility to undertake the review and design of new courses in collaboration with the private sector (Annie Wong and Jamil-Hamili, 2006).

1.3.4 Entrepreneurship Education Development in Malaysian Polytechnics

In Malaysia, small and medium enterprises (SMEs) are important to the issues of economic development and unemployment (Raduan Che Rose *et al.*, 2006). Subsequently, the development of entrepreneurship, as both a concept and an activity, has been growing in importance in Malaysia (Ariff and Abubakar, 2003).

In Malaysia very few studies have been carried out on the psychological characteristics associated with entrepreneurship despite the growing importance of entrepreneurship in this country. This is in contrast to the exhaustive studies that have been carried out abroad, mainly in western countries, especially the United States (Othman Md Nor *et al.*, 2006: p.58). Another studies reveals that few research studies have been conducted in Malaysia into the outcomes of entrepreneurship education particularly among technical students; the introduction of the subject to technical students is still at its preliminary stage (Sh. Ahmad *et al.*, 2003; Yusof Mohar, *et al.*, 2008). This may be due to the fact that this field only began to be emphasised by the government in the 1990s with the creation of the Ministry of Entrepreneur Development in 1995: a special ministry for entrepreneurs (Yusof Mohar, *et al.*, 2008). The current study is significant because it provides empirical research on student perceptions or tendencies towards entrepreneurship in Malaysia. The focus of the study is on factors influencing entrepreneurship rather than examining other personal factors (Kamariah, Yaacob and Wan Jamaliah, 2004).

In Malaysian Polytechnics, an entrepreneurship module comprising forty five hours is offered to students as one of the subjects under the Business Studies Programme. In addition, entrepreneurship is also integrated through the co-curriculum module as a cross-sectional discipline in Semester II, for every student, for four hours per semester. Apparently, the students find the content of this subject very light as compared to the content for those who are taking Business Studies as their major course. Moreover, although the entrepreneurship module exposes students to the topic this is proving ineffective in terms of producing entrepreneurs amongst polytechnic graduates (MoHE, 2005). Consequently, the students do not have the confidence to engage in business, because of inadequate entrepreneurship skills and ability (Harun and Karim, 2004).

The teaching method is not appropriate and the concept of entrepreneurship has been explained in a manner that is too abstract and therefore is difficult to understand (NHEAP, 2007-2010). Also, only entrepreneurship theory is taught, but no practical implications are discussed in lectures. In other words, the current pedagogy should be revised or revamped in order to provide an effective and efficient teaching and learning method. Hence, the curricula must equip undergraduates with the appropriate skills needed to enable them to compete in an ever-changing market (p.27). Thus, there is awareness of some general problems with the teaching and the curriculum but research is needed to ascertain exactly what these are from the perspective of the different stakeholders, for example students, lecturers and the Ministry.

In essence, the government provides support through policies such as training providers, funding, infrastructure and facilities to encourage students to start their own businesses. The inculcation of entrepreneurship values coupled with changing mindsets towards a view of self-employment as a viable alternative to salaried employment will be intensified and this will include institutions of higher education (Malaysia 2006: p.252). In education, this will be implemented through curricular or extra-curricular activities organized in the institutions. In this context, polytechnics have to grasp both the opportunities and the infrastructure provided by the government.

1.4 Significance of the Study

The discussion below will identify in more depth why the study of entrepreneurship education is important. According to Binks *et al.*, (2006) entrepreneurship education is fundamental to the changing role of higher education and its closer integration with industry, society and the wider community. Entrepreneurial education is also demanded by large organisations in order for them to acquire the flexibility and responsive dexterity of small businesses and individual entrepreneurs.

Webb *et al.*, (1982) cited in Garavan and O’Cinneide (1994a) state that students who participated in entrepreneurship programmes were more likely to start their own businesses than other students. Upton *et al.*, (1995) found that 40 percent of those who had attended courses in entrepreneurship had subsequently started their own businesses, while 30 percent had joined family businesses and only 30 percent worked for large

organisations. This view is supported by (Charney and Libercap, 2000: p.5) who found that entrepreneurship graduates are three times more likely than non-entrepreneurship graduates to start new business ventures. Recently, the study of the U.S. Global Entrepreneurship Monitor (GEM) in 2002 and 2003 (reported by USBE in 2005) found that people with post-secondary education or graduate education were twice as likely to be involved in an entrepreneurial firm as those with less education. The fast growth of entrepreneurship education is evidence that those who attended entrepreneurship courses have a higher inclination to venture into new business than those who attended other courses (Galloway and Brown, 2002; Ibrahim and Soufani, 2002; Klofsten, 2000).

One of the emergent themes in entrepreneurship research is entrepreneurial education; it has become one of the hottest topics at U.S. business and engineering schools (Kuratko, 2004; Katz, 2003; Solomon *et al.*, 2002; Myrah and Currie, 2006; Bogenhold, 2004). Myrah and Currie (2006) list three major areas in which undergraduate entrepreneurship education is underdeveloped and educators positioned in the field face challenges. These are political tensions, philosophical dilemmas and implementation struggles. Hence, the diversity and trend toward the establishment of new programmes suggests that future research about entrepreneurship education is needed (Elizabert, 2004). Moreover, evaluating results or curricula is extremely rare, if not nonexistent in university graduate programmes and business school programmes in particular (Pfeffer and Fong, 2002). Hence, the Curriculum Development and Evaluation Division (CDED), Department of Polytechnic and Community College (DPCCE) should take responsibility to promote and inculcate entrepreneurship education through the polytechnic system. As a *modus operandi* it should begin with evaluating and analysing the existing curriculum, activities and programme. And it should develop new proposals for entrepreneurship education, review pedagogical methods, and provide a training programme for lecturers.

In addition, the study is significant to researcher's work as DPCCE as head of unit of General Studies at Curriculum Division, Technical Education Department, Ministry of Education, Malaysia. The job which in brief is to develop, monitor, review the curriculum and manage the associated activities under the General Study Unit. Since the Ministry was restructured on 27 March 2004 to become the Ministry of Higher Education, the researcher was transferred to the new Ministry and remained in a similar division, acting as head of the non-engineering unit, which was responsible for the

general study unit, commerce and hospitality until September 2006. In other words, the researcher was involved directly in the research field, with the study becoming a training process for me in order to be more competent and expert in this area. This has implications for the epistemology of the research as the researcher interacts directly with that being researched, which is the development of entrepreneurship education with special regard to the curriculum.

Moreover Gorman *et al.*, (1997: p.56) have claimed that the propensity or inclination towards entrepreneurship and small business is commonly associated with several personal characteristics that might be expected to be influenced by a formal programme of education. This includes need for achievement, need for autonomy, creativity, risk taking and locus of control which will be measured under the General Enterprising Tendency version 2 (GETv2) Test. Deakin (2002) found that colleges and universities have discovered entrepreneurship to be an extremely popular course of study. The subject of entrepreneurship has received increased attention and sustained interest in the field at all levels: global, societal and individual (Henry *et al.*, 2005). In another study, Curtis (2002) found results to clearly indicate that stakeholders view entrepreneurship education positively and they see it as a subject area that should be included in community college programs. However, in Malaysia, the field of entrepreneurial studies is still new and is currently undergoing great changes (Norasmah Othman *et al.*, 2008: p.117). To resolve these issues, a re-examination of our higher education system is needed to find out the stumbling blocks that hinder the growth of entrepreneurship. Now is also the time to further examine whether our existing university students are interested in entrepreneurship (Yusof Mohar, *et al.*, 2008).

In conclusion, the trend in most universities is to develop or expand entrepreneurship programmes and to design unique and challenging curricula specifically for entrepreneurship students (Kuratko and Hodggets, 2004, Kuratko, 2005). In other words, the importance of entrepreneurship education is that it may promote the founding of new businesses by graduates or enhance their employment prospects and the success of graduates in the job market, promote technology transfer from the university to the market through the development of technology-based business plans and forge links between the business and academic communities (Charney and Libercap, 2000).

1.5 Research Aims and Methodology

Entrepreneurship education is the focus of this study. The context of entrepreneurship education includes the curriculum or syllabus, pedagogy, the implementation of activities and programmes in polytechnics and direction and organisation of these through the Malaysian Ministry of Higher Education. Simultaneously, research will explore the effectiveness of entrepreneurship education with a special focus on students' attitudes to entrepreneurship. Specifically, this can be achieved through the following objectives.

1. To identify empirically the extent to which current entrepreneurship education influences polytechnic students' towards developing entrepreneurial tendencies;
2. To investigate how entrepreneurship education is nurtured/cultured in polytechnic systems;
3. To investigate the effectiveness of pedagogical methods in polytechnics offering courses on entrepreneurship.

Gartner (1988) pointed that in entrepreneurship research, the research questions should focus on the process of entrepreneurship instead of on who is the entrepreneur. The central questions that will be addressed in the present study are as follows:

RQ1: How does current entrepreneurship education encourage the development of entrepreneurship characteristics in students?

RQ2: How far is the current entrepreneurship curriculum in polytechnic effective?

RQ3: How can entrepreneurship be taught effectively in Malaysian polytechnics?

RQ4: How does government policy and administration influence student attitudes towards entrepreneurship?

RQ5: How far do cultural values moderate the tendencies of students towards entrepreneurship?

The research methodology is primarily qualitative which qualitative study is dominant in the study. The General Enterprising Tendency Test was used as indicator to perceive whether students are inline towards entrepreneurship or not. These results were used in

exploring the reason 'why' through interview and focus group discussion. In addition, observation and secondary data become important inputs to support the data analysis in the study. This topic will be discussed in detail in Chapter 5.

1.6 Operational Definitions

Different researchers use different definitions of concepts in their studies. The following provides a brief discussion of terms used in the study.

Entrepreneurship: The process of creating and running a new business activity (Edwards and Muir 2006a). It can be categorised in a range of forms: 'new or established businesses of all sizes (micro, small, medium and large) or as self employment' (Matlay 2005b, p. 629). Kirby (2004) concludes that the definition of entrepreneurship is one of the major problems in entrepreneurial research as no agreed definition. This is discussed in detail in Chapter 3.

Entrepreneur: Someone who is involved in entrepreneurial activity such as establishing a new firm or entering into self-employment.

Entrepreneurship education: 'A range of skills and attributes that are not innate and can be developed through educational programmes' (Kanyi 1999, p. 40). In this study, it is bounded by four variables: the role of polytechnic in promoting entrepreneurship, the entrepreneurial curriculum and content, the pedagogical issues and entrepreneurial internship programmes.

Tendency towards entrepreneurship: An individual's disposition or proclivity to become an entrepreneur.

Polytechnic students: In this study, polytechnic students are academic students studying in engineering, commerce and hospitality at the diploma and certificate level in the semester three, four, five and six.

Entrepreneurial curriculum and content: The courses and methods of teaching and assessment of entrepreneurship that are part of the entrepreneurship education in polytechnics.

Demographic characteristics: An individual's gender, ethnicity, age, religion, educational background, working experience and family business background.

1.7 Organisation of the Dissertation

The title of this thesis is **“Developing entrepreneurship education: empirical findings from Malaysian polytechnics”**. The thesis aims to explore existing research, to highlight current problems and to address gaps in the literature. This dissertation consists of ten chapters.

Chapter 1 has given a brief explanation of the research. It covers the background of the study including the development of the entrepreneurship education, the research questions, objectives of the study, significance of the study and the definition of the terminology in the study.

Chapter 2 discusses the literature on entrepreneurship education in detail contains the literature review outlining the concept and definition of entrepreneurship, the core perspective of entrepreneurship, the development of entrepreneurship education and the demographic characteristics of entrepreneurship.

Chapter 3 focuses on the curriculum, the entrepreneurship contents and framework, the curriculum development process in DPCCE, the pedagogical issues and the entrepreneurship education model.

The research methodology is discussed in Chapter 4. It discusses in details the research methodology underpinning this study which includes the research framework, the data analysis process and the reliability and validity of the study.

The data collection process is depicted in Chapter 5. It shows the pilot study conducted, the procedure in data collection and the analyses of the data gathered for this research.

Chapter 6 focuses on the Malaysia setting includes the historical, political and economic background of Malaysia. The chapter also discusses the New Economic Policy and the National Development Policy in regard to the development of entrepreneurship in Malaysia and the involvement of the Malaysian government and its agencies in the promotion of entrepreneurship.

The General Enterprising Tendency Test findings are discussed in Chapter 7. The questionnaire was administered to students and lecturers in polytechnics. Overall the results shows that the lecturers and students are occasionally and less enterprising respectively.

Chapter 8 reports findings from the interview and focus group conducted with polytechnics administrators, lecturers and students, experts from universities and industries. This chapter reviews why students and lecturers in polytechnics are less and occasionally enterprising. It also offers suggestions about improvements with regard to entrepreneurial activities in the polytechnic system.

Chapter 9 discusses these findings in greater detail and in depth. It focuses on the current entrepreneurship curriculum, the pedagogical issues, government policy and administration and the relationship between culture and entrepreneurship. Issues such as gender and religion are highlighted here.

Chapter 10 covers the conclusions and recommendations of the study. It summarizes the main findings and their implications, discusses the limitations of the study, and offers recommendations and suggestions for future research.

1.8 Conclusion

The general understanding is that entrepreneurship is a crucial catalyst to innovation and increased productivity. It is essential not only to the growth of the nation's economy but also to the nation's ability to gain a competitive edge in the global market. The findings of this study will assist students, departments, staff, administrators, heads, and other stakeholders to understand the strengths and weaknesses of entrepreneurship education in the Malaysian polytechnic. It is also hope to create a new momentum in developing the entrepreneurial culture in the Malaysian polytechnic education system.

CHAPTER 2

LITERATURE REVIEW

PART I: ENTREPRENEURSHIP EDUCATION

2.1 Introduction

This chapter will explain the role of entrepreneurship education, the link between entrepreneurship and job creation and the capability of entrepreneurship as a mechanism in reducing the number of unemployed graduates. The first part of this chapter focuses on the concept and definition of entrepreneurship and small businesses. This is followed by a discussion of entrepreneurship history and characteristics that will provide an in-depth understanding of entrepreneurship skills, knowledge and attributes. Students' backgrounds, for example: ages, courses, gender, experience and family background are also outlined to illustrate the relationship between entrepreneurship and entrepreneurial tendency. The chapter ends with an analysis of entrepreneurial culture development in polytechnics via an effective curriculum, pedagogy and management system.

2.2 Constituents of Entrepreneurship Education

Jamieson (1984) and Laukkannen (2000) distinguish two key areas of entrepreneurship education: Education about entrepreneurship; and Education for entrepreneurship.

Education about entrepreneurship. This incorporates developing, constructing and studying entrepreneurial theories, as well as the creation, contribution to economic development and entrepreneurial processes of small and middle sized firms. It accounts for undergraduates, Masters and PhD students as well as policy makers and researchers. It views entrepreneurship as a social phenomenon (Laukkannen, 2000). For example, students on the MBA Entrepreneurship module are taught **about** Entrepreneurship in the classroom for the most part, but are given the opportunity of working with entrepreneurs in pre-incubators as mentors (entrepreneurs) and/or on the development of their business plans (Kirby, 2006).

Education for entrepreneurship. This addresses present and potential entrepreneurs with the objective of developing and stimulating the entrepreneurial process necessary for the start-up of a new venture both within and outside an existing organisation (Laukkannen, 2000). For instance, developing the appropriate attributes students need to become a successful entrepreneur (Kirby, 2004; Rae, 1997) and equipping them with the knowledge and skills to start and grow a business (Bygrave, 1994; Timmons and Spinelli, 2004).

However, Jamieson (1984) and Handscombe *et al.*, (2008) advocate *education in and through entrepreneurship*. This provides students with a learning environment conducive to engaging them in real and practical enterprising activities. Kirby (2006) maintains that students on non-entrepreneurship programmes are able to learn more about their disciplines **through** entrepreneurship, by conducting projects for businesses in pre-incubators, incubators and Science Parks. In this regard, the aim of the study is to explore whether polytechnic is already exposed to this approach or not. It is important to ensure polytechnic are in parallel with the other institutions in nurturing entrepreneurs.

The objectives of enterprise education span learning "for", "about", and "through" enterprise, are generally aimed at enabling the student to think and act in enterprising ways. Self-employment or entrepreneurship are generally looked on as being possible, rather than probable, outcomes (Hartshorne, 2002). In this context, the study aims to learn from the experience of developed countries in planning, organising and implementing entrepreneurship education in the 21st century.

2.3 Concept and Definition of Entrepreneurship

2.3.1 Entrepreneurship

The definition of entrepreneurship is one of the major problems in entrepreneurial research as no definition has been agreed (Kirby, 2004; Brown, 2000; Chell *et al.*, 1991), leading to some criticism (Johnson 1990; Koh 1996; Lee *et al.*, 2005; Lumpkin and Dess, 1996; Matlay, 2005; OECD, 2001; Schieb-Bienfait, 2004; Watson, 2001). Henry *et al.*, (2005) are concerned about the danger of unresolved debates on the definition of entrepreneurship which can lead to confusion. Most researchers

circumvent the problem by creating their own definitions of entrepreneurship, entrepreneurs and small businesses.

Entrepreneurship has multiple meanings (Bogenhold, 2004; Gartner, 1990). 'Entrepreneurship' and 'enterprise' derive from similar roots (Chell, 2007), the term 'entrepreneur' is French word that is "entreprende" in origin, a literal meaning might translate as 'one who takes between' (Deakin, 1999). It has connotations with small business ownership and management (Carland *et al.*, 1984). The French economist most commonly credited with giving the term this particular meaning is Jean Baptiste Say. He theorised that an entrepreneur was a coordinator and supervisor of production. Due to his major contributions to the area of entrepreneurship, he has been dubbed the father of entrepreneurship (Filion, 1997).

One of the earliest definitions of an entrepreneur originates from Irish economist Richard Cantillon (circa 1700). He described the individual as a rational decision maker who assumes risk and provides management for the firm (Kilby, 1971). This person has a comparative advantage in decision making, and makes a decision that defies conventional wisdom either because he has better information or a different perception of events or opportunities (Herbert and Link, 1989). Gibb (1987) view an entrepreneur is someone who markedly demonstrates enterprising attributes.

In the 20th century, economist Joseph Schumpeter described entrepreneurs as the creation of new products and processes (Schumpeter, 1936). To date, many definitions of entrepreneurship have been mooted and accepted. Definitions commonly quoted by entrepreneurship researchers state that, 'entrepreneurship is the process of creating new business activity' (Levie, 1999). Hisrich *et al.*, (2005: p.8) regard entrepreneurship 'as a process of creating something new and assuming the risks and rewards'.

2.3.2 Small Business

There is no universal definition for Small Business. The U.S. Small Business Administration has more than 800 definitions based on categories. A common delineation of a small business is one that employs fewer than 100 people (Zimmerer and Scarborough, 2002) and where the enterprise's annual receipts are not in excess of

US\$500,000 (CELCEE, 2007). For example, over 99 percent of all businesses in the U.K are defined as small (with fewer than 50 employees) or medium-sized businesses (with 50 to 249 employees) (House of Commons, 2006/07). Presently, there is no common definition of small and medium enterprises (SMEs) in Malaysia. Different Agencies define SMEs based on their own criteria, usually benchmarking against annual sales turnover, and number of full-time employees or shareholders' funds (National SME Development Council, BNM, 2005). SMEs are defined as "firms with annual sales turnover not exceeding RM25 million or full time employees not exceeding 150". According to the recent SME Annual report, there are 518,996 SMEs representing 99.2 percent of total business establishments in Malaysia (Zizah Che Senik *et al.*, 2007). The Ministry of International Trade and Industry (MITI) consider small business as enterprises less than RM500,000 (US\$125,000) in shareholders' funds (Zafar Ahmed, Jumaat-Mahajar, and Allon, 2005: p.169). The Companies Act of 1985 states that a company is "small" if it satisfies at least two of the following criteria; a turnover of not more than £5.6 million, a balance sheet total of not more than £2.8 million; and no more than 50 employees (National SME Development Council, BNM, 2005).

Some argue, however, that a clear distinction should be made between 'entrepreneurship' and 'small business ownership'. We consider that the teachings of entrepreneurship and small businesses overlap to some extent, and that entrepreneurship education in the 21st century must take account of small and medium enterprises (Schieb-Bienfait, 2004). In addition, although there is overlap between small business and entrepreneurship and these terms are often used interchangeably (Gibb, 1993), the concepts are not the same (Carland *et al.*, 1984; Gartner 1988). Entrepreneurship can be described as a process of action where an individual searches for an opportunity, takes calculated risks and embarks on a business venture. This study utilises this definition in its exploration and explanation of the research problem as stated in Chapter 1.

2.4 The Core Perspective of Entrepreneurship

2.4.1 Entrepreneurship from the Economic Perspective

"Research in entrepreneurship originates in economics. For economists the main question is what happens when entrepreneurs act, i.e. the net effects of the actions of the entrepreneur upon the general economic system"

(Johannisson & Landstrom, 1998)

This statement highlights the relationship between entrepreneurship and economic growth. Entrepreneurship plays a central role in the economic development process and has received much attention from academics and policymakers (Wren, 2004). The enterprise culture is founded on the premise that entrepreneurship is the engine that drives the economy (Gorman *et al.*, 1997; Sarah & Anderson, 1999) and is an important factor in shaping economic development (Audretsch & Keilbach, 2004; Hytti and Kuopusjarvi, 2004). The past decade has seen the rapid development of entrepreneurship education in many areas of the globe, for example in the USA, Canada, Europe, Africa and Asia. This situation indirectly refers to the significance of entrepreneurship in economic development (Plaschka & Welch, 1990; McMullan & Long, 1987; Caird, 1990) and its special status in higher education (McMullan & Long, 1987). These include the enhancement of small business creation and development, the reduction of unemployment and the restructuring of the labour market skills and attitude to cope with new technologies and changing work patterns (Caird, 1990). In the UK, the small firm sector will provide the main vehicle for economic growth and development and will be the main provider of jobs into the 21st century (Deakin & Freel, 2003), subsequently improvement in living standards and tax revenues from their enterprises will contribute to a nation's treasury (Dana, 2001).

The interest in entrepreneurship education is closely related to the economic contribution of small firms, especially in the context of job creation (Falkang & Alberti, 2000) in both developed and developing countries (Rajah & Sondakh, 2006). The famous study by Birch in the USA between 1969 and 1979 finds that 66 percent of the net new jobs were created by firms employing less than 20 workers (Birch, 1979). It was referring to small businesses which are gradually seen as the engine of economic growth and the creators of jobs (Ibrahim, 1999). However, Birch has been criticised by Fothergill and Gudgin (1979) who claim that firms employing fewer than 25 people only contributed around 0.8 percent of the growth in total manufacturing output between 1968 and 1975. Storey (2000) agreed by stating that job creation without some control group comparisons does not provide a convincing case for economic impact. For instance, according to the Small Business Forum (2006) there are approximately 250,000 small firms in Ireland contributing 68.4 percent of private sector employment (Richardson and Hynes, 2008). Almost 70 percent of people consider entrepreneurship to be a good career choice (p.189). The contribution of SMEs in Malaysia accounts for 32.5 percent of overall manufacturing employment (Asokkumar, 2006).

Overall, entrepreneurship and enterprise have been widely recognised as having a critical role to play in economic development, everywhere, and there are many reasons why this role is perceived to be even more important in the poorer nations of the world, which are often, albeit erroneously, known as the developing countries (Harper, 1991). In conclusion, the benefits of entrepreneurship from the economic perspective are that it creates wealth, provides job opportunities, has a greater proclivity to innovate, and can help to counter regional economic decline (Cromie, 2003).

Lastly it might be concluded that economists have recognised the vital role of entrepreneurs in economic and social growth. They are considered the catalysts for transforming and improving the economy (Sexton and Bowman, 1985).

2.4.2 Entrepreneurship from the Psychological Perspective

The academic study of entrepreneurial motivation started some 50 years ago and has generally been dominated by approaches based on the broad social sciences (especially social psychology) rather than purely economic studies (Kristiansen and Indarti, 2004). According to Derville (1982: p.1), psychology 'is the scientific study of behaviour'. Hence psychologists in entrepreneurship attempt to discern distinct behaviours and characteristics that distinguish entrepreneurs from non-entrepreneurs. The characteristics commonly associated with entrepreneurs include: innovation, risk taking (Hull, Bosley & Udell, 1980; Sexton & Bowman, 1983, 1984; 1986), independence (Bird, 1989; Boyd & Gumpert, 1983; Woo, Cooper and Dunkelberg, 1991), diligence (Lankard, 1991; Eden 1973), self-confidence (Phillipson, 1995), and locus of control (Levenson, 1981; Rotter, 1990). Table 2.1 below illustrates the trend of characteristics in the last ten years that are usually cited to describe the successful entrepreneur.

Table 2.1 The Characteristics of Entrepreneurship

AUTHOR	YEAR	CHARACTERISTIC
Gurol & Atsan	2006	Need for achievement, locus of control, risk taking propensity, tolerance for ambiguity, innovation and self-confidence.
Gibb.A.A	2002	Motivation to achieve; self-confidence and self-belief; creativity; autonomy and high locus of control; hard work; commitment; and determination
Ibrahim & Soufani	2002	High need for achievement; high need for independence; locus of control; tolerance for ambiguity; and innovation.
Lee & Peterson	2000	Autonomy, innovativeness, risk taking, pro-activity, competitive aggressiveness, critical thinking
Koh	1996	Need for achievement, locus of control, propensity to take risks, tolerance of ambiguity, self-confidence and innovativeness
Lumpkin & Dess	1996	Five dimensions-autonomy, innovation, risk taking, pro-activity, and competitive aggressiveness have been useful for characterising and distinguishing key entrepreneurial processes, that is, a firm's entrepreneurial orientation (EO).
Timmons	1994	Need for achievement and locus of control
Robinson et al.	1991	Achievement, innovation, control and self-confidence
Gartner	1990	Risk taking, locus of control, autonomy, perseverance, commitment, vision, creativity
Gibb.A.A	1987	Initiative, strong persuasive powers, moderate rather than high risk-taking ability, flexibility, creativity, independence/autonomy, problem-solving ability, need for achievement, imagination, high belief in the control of one's destiny, leadership, hard work
Timmon et al.	1985	Total commitment, determination and perseverance; drive to achieve and grow; orientation to goals and opportunities; taking initiative and personal responsibility; veridical awareness and a sense of humour; seeking and using feedback; internal locus of control; tolerance of ambiguity, stress and uncertainty; calculated risk-taking and risk sharing; low need for status and power; integrity and reliability; decisiveness, urgency and patience; learning from failure; and team builder and hero maker.

Source: Timmon *et al.* (1985), Gibb.A.A (1987), Gartner (1990), Robinson *et al.* (1991), Timmons (1994), Lumpkin & Dess (1996), Koh (1996), Lee & Peterson (2000), Ibrahim & Soufani (2002), Gibb.A.A (2002), Gurol & Atsan (2006)

Table 2.1 above shows the traits commonly associated with entrepreneurs, and highlights the main thrust of the research in entrepreneurship education research by scholars, for example, Othman *et al.*, (2006), Gurol and Atsan (2006), Kirby (2004) and Caird (1990). However for the purpose of this study only the five core attributes will be explored. These are: the need for achievement, autonomy, creative thinking, risk taking and internal locus of control. This is in line with the Caird (2006) Model and the General Enterprising Tendency version 2 Test (GETv2 Test) to measure students' entrepreneurship tendency in Malaysian polytechnics.

2.4.2.1 Need for Achievement (nAch)

McClelland's need for achievement theory is still widely respected in the entrepreneurship literature (Lewis, 1991). It has been cited in the majority of the small business literature as covering the fundamental traits associated with successful entrepreneurs (Ibrahim and Soufani, 2002). The personality trait theory (Kristiansen and Indarti, 2004) suggests individuals with a high need for achievement have a strong desire to be successful and are thus more likely to behave entrepreneurially as a consequence (McClelland, 1961). These people tend to take immediate responsibility for tasks, display initiative and are inclined to plan and control events. They demand concrete feedback about their level of performance (Hamilton and Harper, 1994; Cromie, 2000: p.17) and are among those who look to solve problems themselves, set targets, and strive to achieve these targets through their own efforts. They are attracted to entrepreneurship and are more successful than other kinds of entrepreneurs (Littunen, 2000). They will choose situations that are characterised by individual responsibility, moderate (not high) risk-taking, use of new technology and keen anticipation of future possibilities (Kirby, 2004). They accept responsibility for the decisions they make and take credit for the solutions they provide for problems (Deakin and Freel, 2003). Hansemark (1998) points out the motivation to achieve are based on expectations of doing something better or faster than anybody else or to improve on their previous accomplishments. Conversely, the low need of achievement is associated with low competence, low expectations, an orientation towards failure, and a tendency towards self-blame and low inspirations (Nathawat *et al.*, 1997).

2.4.2.2 Need for Autonomy

According to Lumpkin and Dess (1996) autonomy refers to the independent action of an individual in carrying an idea or a vision through to completion. People who are endowed with this characteristic prefer or need to do things through their own efforts. As a result, they actively seek situations and environments which allow them to “do their own thing”. They are also ready to take responsibility for the results (Henry *et al.*, 2003). They value individualism and freedom more than either the general public or managers and they have a dislike of rules, procedures and social norms (Kirby, 2004). In other words, entrepreneurs rebel against bureaucratic structures that are often characterised by strict rules and regulations and they are able to see more potential

benefits and they need more freedom of thought and action in order to maximise their skills (Henry *et al.*, 2003).

2.4.2.3 Creative and Innovative Thinking

Shackle indicated that creativity is an important element in the entrepreneurship process (Deakin and Freel, 2003). Creativity is the ability to bring something new into existence (Webster, 1976). It is a process encompassing areas such as accumulation of knowledge and the reflection, development, and evaluation of an idea. Creative people tend to exhibit particular characteristics (Cromie, 2000). According to Amabile (1983), a product or response will be judged creative according to its novelty, appropriateness, usefulness, degree of correctness or value to the heuristic, rather than algorithmic, task at hand. She argues that she is not trying to teach people to be creative, although sometimes it is a by-product of her work. It is her intention to help students sustain their own creativity in the work environments they choose or to be able to support others' creativity in the organisations they lead.

Innovation is a key part in the entrepreneurial process (Kuratko and Hoggets, 2004: p. 138). Innovation means that the entrepreneur must have the ability to produce solutions for new and unforeseen situations (Littunen, 2000). Schumpeter (1934) was among the first to emphasise the role of innovation in the entrepreneurial process. He outlined the economic process of "creative destruction", by which wealth was created when existing market structures were disrupted by the introduction of new goods or services that shifted resources away from existing firms and caused new firms to grow. The key to this cycle of activity was entrepreneurship, the competitive entry of innovative "new combinations" that propelled the dynamic evolution of the economy (Schumpeter, 1934). For example, in most industries significant innovations originate from the garages and basements of entrepreneurs such as Steve Jobs, the founder of Apple Computers, and William Hewlett and David Packard, founders of Hewlett-Packard (Ibrahim and Soufani, 2002).

Opportunities also associated with creative and innovative thinking, and as suggested by Mullins (2006), are not lying around like lost coins on the pavement, waiting to be picked up by a random passer-by. Research shows that entrepreneurs that exploit opportunities have higher expected goals (Shane and Venkataraman, 2000). An

entrepreneurial opportunity can be defined as a feasible, profit-seeking, potential venture that may provide an innovative new product or service to the market, improve an existing product/service, or imitate a profitable product/service in a less-than-saturated market (Singh, 2000). Being feasible means the potential venture is possible, so it does not break the laws of physics, for example. The term profit-seeking allows us to define an entrepreneurial opportunity prior to venture founding and profitability. This definition is deliberately broad and can be applied to entrepreneurial opportunities based on incremental market improvements, those that are highly innovative and create new markets, and everything in between (Singh, 2001).

2.4.2.4 Risk-Taking

One of the essential features of entrepreneurial characteristics and consequently of entrepreneurial education is risk-taking (Lumpkin and Dess, 1996). Some analysts (McClelland, 1961; Meridith *et al.*, 1982; Caird, 1990; Gartner, 1990; Cunningham and Lischeron, 1991; Ho and Koh, 1992) have judged risk taking as a major entrepreneurial characteristic in the entrepreneurship literature. Richard Cantillon, for example, understood a risk to be an uncertainty of knowledge between the purchasing and selling price (Kyro and Tapani, 2007) and the uncontrollable factors that often affect such situations (Herbert and Link, 1988). Risk taking propensity refers to the willingness of an individual to employ either risk taking or risk avoidance strategies when confronted with risky situations (Gurol and Atsan, 2006). Classic economic theory suggests that entrepreneurs are risk-takers by the very nature of their activities and roles in economy and society. It is clear that entrepreneurs cannot be averse to risk (Kirby, 2004). Individuals who are willing to accept the uncertainty and risk associated with being self-employed as opposed to settling for the refuge of jobs within organisations are often considered to be entrepreneurs (Lee and Peterson, 2000). Another important finding was that entrepreneurs are more likely to take calculated risks than managers, teachers, and civil servants (Cromie, 2000). In other words, individuals need to display awareness and persistence in risk-taking in order to be the successful entrepreneurs who help form the basis of the 'high risk high return' concept in business.

2.4.2.5 Locus of Control (LoC)⁵

This characteristic is considered important by some researchers (McClelland; 1961; Brockhaus and Horwitz, 1986; Gartner, 1990; Caird, 1990; Timmons, 1994; Hansemark, 1998). LoC theory originated in a work by Rotter in 1966 which focused on individuals. According to Rotter, internal control relates to learning, and thus motivates and supports pro-activity, and external control impedes learning and encourages passivity. The internal locus of control has been identified as an important characteristic of potential entrepreneurs. A high internal locus of control means that people need to be in control of their own environment, to be their own boss (Deakins and Freel, 2003). They believe that the achievement of a goal is dependent on their own behaviour (Kirby, 2004) and they control their environment by the actions they take (Cromie, 2000). Individuals with a heightened sense of control are also more likely to have a clear vision of the future and long-term business development plans (Entrialgo *et al.*, 2000).

In contrast, a person with external LoC interprets events as the result of outside factors that they cannot influence. These may include; luck, chance, fate, or 'powerful others' (Rotter, 1966; Hamilton and Harper, 1994). Interestingly, researchers from Durham University Business School (DUBS) do not consider self-confidence to be a separate enterprising attribute but associate it with an internal LoC (Cromie, 2000). In conclusion, people with an internal locus of control believe themselves to be in control of their destiny whereas individuals with an external LoC believe that fate, chance or powerful others have a dominating influence over their lives (Chell, 2001: p.139). Robinson *et al.*, (1991) stated that internal control leads to a positive entrepreneurial attitude and that most students who receive entrepreneurial knowledge may develop a higher level of control and self-efficiency. High levels of self-confidence have been suggested in many studies to be a prevailing characteristic in entrepreneurs.

The psychological perspectives discussed above will be utilised to help measure whether polytechnics' students display entrepreneurial characteristics under the General Enterprising Tendency version 2 (GETv2) Test. The findings from the test will be used

⁵ **Locus of control theory** is a concept in psychology that originally distinguished between two types of people - *internals*, who attribute events to their own control, and *externals*, who attribute events in their life to external circumstances. For example, college students with a strong *internal* locus of control may believe that their grades were achieved through their own abilities and efforts, whereas those with a strong *external* locus of control may believe that their grades are the result of good or bad luck, and are hence less likely to work hard for high grades.

as a guide to assist the exploration of related factors under the qualitative study. In other words the qualitative study will answer, “Why?” the results happen from the quantitative part of this research.

2.4.3 Entrepreneurship from the Sociological Perspective

The contributions of sociologists to the study of entrepreneurship should not be overlooked. Sociologists have enriched entrepreneurial knowledge, especially in the theories and models of entrepreneurship propounded over the decades. Max Weber (1864–1920)⁶, Emile Durkheim (1858–1917)⁷ and Everett Hagen (1962)⁸ are a few of the prominent sociologists to have made an impact in entrepreneurship studies.

Social entrepreneurship has been acknowledged as an important factor in regeneration and economic growth, particularly at the regional development level (HEA & NESTA, 2007). The concept of social entrepreneurship is still poorly defined and its boundaries to other fields of study remain blurred (Mair and Marti, 2006). Thompson (2002) defined social entrepreneurs as people with similar behaviours to conventional entrepreneurs but ‘operates in the community and are more concerned with caring and helping than with making money’. Social entrepreneurship does not generate a profit (Chell, 2007). They are entrepreneurs with a social mission (Dees, 2001). In addition, Westall (2007) extends it to those in corporate social responsibility, co-operative and non-profit centres of expertise.

A prominent example is cited in the literature, namely the global efforts of Ashoka, founded by Bill Drayton in 1980, to provide seed funding for entrepreneurs with a social vision, the multiple activities of Grameen Bank, established by Professor Muhammad Yunus in 1976 to eradicate poverty and empower women in Bangladesh (Mair and Marti, 2006). The highly successful Grameen Bank in Bangladesh provided credit to the poor to help them move out of poverty (Dees, 2007). Lastly, the use of arts to develop community programs in Pittsburgh by the Manchester Craftsmen's Guild, founded by Bill Strickland in 1968 (Mair and Marti, 2006). In the UK, it is estimated that there are at least 500,000 innovative non-governmental organisations (NGOs)

⁶ A German lawyer, politician, historian, sociologist and political economist, who profoundly influenced social theory.

⁷ A French positivist sociologist. He established the modern formal academic discipline

⁸ Professor of Economics, Senior Staff Member, Center for International Studies, Massachusetts Institute of Technology

employing more than 4 percent of the workforce and accounting for three percent of the gross national product. In the US, it has been reasoned that 1.6 million growing not-for-profit ventures employ 8 percent of the workforce and account for 7 percent of national income (Wong and Tang, 2007).

In conclusion, from the perspective of sociological perspective entrepreneurship perceived under the issue of culture, power and control which will be discussed in next chapter.

2.5 Entrepreneurship and Education

2.5.1 Concept and Contextual Issues of Entrepreneurship Education

Solomon (1989) stated that everyone has an entrepreneurial spirit. Schultz (1980) also agrees that every individual has the ability to be an entrepreneur and that ability can be developed through education. Holmes and Schmitz (1990) conclude that, “some subjects have already proved that entrepreneurial skill can be enriched through experience, training, education and health improvement”. One of the complications in understanding the concept of entrepreneurship is the way the term is used in the literature. For example, the term ‘entrepreneurship education’ is commonly used in the United States. The expression is rarely used in the UK and only occasionally used in Europe. ‘Enterprise’ is most preferred in the UK instead of entrepreneurship education (Gibb, 1993: p.12).

2.5.2 The Definition of Entrepreneurship Education

Entrepreneurship education is a growth industry in itself. However, no clear definition of entrepreneurship education exists (Kailer, 2007). Entrepreneurship education as defined by The Centre for Entrepreneurial Leadership Clearinghouse is, “the process of providing individuals with the concepts and skills to recognise opportunities that others have overlooked, and to have the insight, self-esteem and knowledge to act where others have hesitated”. Young (1997) regards entrepreneurship education as the structured, formal conveyance of entrepreneurial knowledge. Entrepreneurial knowledge refers to the concepts, skills, and mentality individual owners use during the course of starting up and developing their businesses. Entrepreneurial education is the process of providing

individuals with the ability to recognise commercial opportunities and the insight, self-esteem, knowledge and skills to act on them (Jones & English, 2004).

2.5.3 The Significant Effects of Entrepreneurship Education

In the modern global economy, entrepreneurship has become a central issue for business studies. Many scholars ask, either implicitly or explicitly, why anyone should study entrepreneurship (Shane and Venkataraman, 2000). It is thought most researchers are attracted to this area of study due to the perceived ability to make a constructive difference to individual, social and national development (e.g., Fayolle and Degeorge 2006; Matlay and Westhead, 2005).

There are significant differences between students who have taken entrepreneurship courses and those who have not (Fayolle *et al*, 2006; 2007). Entrepreneurship graduates were more likely to launch businesses and had greater intentions to become entrepreneurs (Noel, 2001). This issue also discussed in paragraph 2.5.3.1. Using an understanding of polytechnic students' tendencies, we can predict whether, at some time, they will start a business or not. It is also claimed that graduates who choose entrepreneurship education as part of their curriculum tend to have a higher propensity in engaging in entrepreneurship activities (Brown, 1990; Vesper and Gartner, 1996). Recently, a study by Sizong Wu and Lingfei Wu (2008) found that only 2 - 6 percent of Chinese students choose entrepreneurship as a career option. This also contrasts with a report by the Association of University Technology Managers (2001). It states that entrepreneurship accounts for 70 percent of all new jobs and is a crucial topic for the 21st century (Chong Siong Choy *et al.*, 2005). In addition, the earlier study by Mescon (1987) of 147 programme participants reported that 34 percent of the graduates started a business after taking an entrepreneurship course and 52 percent planned to go into business within six months of the survey.

2.5.4 The Objectives of Entrepreneurship Education

This section explicates the general objectives of entrepreneurship education as suggested by research. Gibb (1993: p.15) aims to develop enterprising behaviour, skills

and attributes with the enhancement of students' insights by increasing the depth of knowledge about the particular phenomenon being studied. It was supported by Cotton (1991) who looked to help develop people with enterprising promise and inculcate an attitude of self reliance. Schaper and Casimir (2007) views lie within a broader perspective in which entrepreneurship courses should ideally help create such outcomes by producing graduates who are more willing to launch their own commercial ventures. The goals are primarily to share and develop an understanding of enterprise within the learning and educational spheres, whilst also being mindful of employability and encouraging practical engagement in business and the community. Secondly, they aimed to develop skills, innovation and confidence in teaching and stimulating enterprising learning across the curriculum.

Finally, they relate enterprise to the universities' broader role in the economy and community, especially in contributing to economic growth and widening access to learning (Rae, 2007). Brand *et al.*, (2007) argue that as regards the opportunity preparation stage, entrepreneurship education for non business students should focus on: (1) creating awareness of and positive attitudes towards different contexts (solo-start-up, team start-up, corporate venturing, business take-over) in which an organisation can be created for exploiting opportunities; (2) developing the knowledge and skills to build an organisation in different contexts including team work, negotiation skills, and networking skills; (3) developing fundamental knowledge and skills of management, marketing, organisation and finance; and (4) how to write a business plan that targets various audiences. The specific objectives of entrepreneurship education will be discussed in the next chapter.

2.5.5 The Development of Entrepreneurship Education

The development of the entrepreneurship education has been discussed in chapter 1. Then, the discussion below will focusses on a few countries which already develop the entrepreneurship through the education.

2.5.5.1 United Kingdom (UK)

In UK business schools, enterprise teaching can be traced back to the 1970s (Watkins and Stone, 1999). The Enterprise in Higher Education initiative was launched in 1987.

The main objective of this programme was that every undergraduate student should be provided with the opportunity to develop competence in enterprise as an integral part of their undergraduate degree programme. Implementation of the programme began in 1988 when universities and polytechnics were invited to participate. From the 133 Higher Education Institutions (HEI's) 50 had courses in entrepreneurship and the number rose by 275 HEI's between 1997/8 and 1988/9 (Gibb, 2002).

Today the major institutions of higher learning who are offering courses and/or programmes are: the University of Durham, University of Stirling, Cranfield School of Management, Warwick Business School, London Business School, Manchester Business School and University of Ulster. In 1997, the University of Stirling established a Department of Entrepreneurship, probably the first in the world (Khan and Almoharby, 2007). A similar study by Vesper and Gartner (1997) supported that the focus for established SME-oriented studies is limited with the top-rated UK programmes generally perceived to be those at Durham University Business School (DUBS), Stirling, Cranfield and London Business School.

Consecutive UK governments have made great efforts to support the development of university graduates and increase the number of better-educated entrepreneurs (Matlay, 2006; Gibb, 2002). Khan and Almoharby (2007) stated that the programmes that encourage entrepreneurship in higher learning institutions in the UK are: the New Enterprise Program (late 70's), The Graduate Enterprise Program (1983), and The Enterprise Development Program (1990). In addition, the formation of the National Council for Graduate Entrepreneurship (NCGE) in 2004 is a clear demonstration of intent (Collin *et al.*, 2004; McGowan *et al.*, 2008). This is one of many UK initiatives that support enterprise;, others include the network of Science Enterprise Centres (UKSEC), National Council for Graduate Entrepreneurship (NCGE) and the Cambridge-Massachusetts Initiative. These organisations acknowledge the role of higher education institutions in promoting enterprise education and encourage graduates to start up new businesses (Hannon, 2006: p.5). The NCGE was designed to develop the link between industry, students and Higher Education Institutions (HEIs) and seek to facilitate improvements in the 'enterprise culture' within UK Universities (Pittaway and Cope, 2007). The aim of NCGE is to raise the profile of entrepreneurship and to make the option of starting up one's own business as a career choice amongst students and graduates more viable and attractive (NCGE: <http://www.ncge.com/home.php>).

The University of Surrey (FUSE) intend to educate participants for entrepreneurs, and have direct links to an enterprise laboratory and pre-incubator (Kirby, 2006). FUSE is an extra-curricular programme for all students of the university who wish to explore the possibility of starting their own business. It has been developed by staff of the university's School of Management and is run in association with the Student Union and UniSdirect, the outreach arm of the university. It comprises of four two-hour classroom-based evening 'classes' and a week-long summer school intended for those who have a business idea, a business plan or have the intention of starting their own business after graduation (Kirby, 2004, 2006: p.44). Previously, the university had opened a highly successful £70 million Science Park in 1986. This park houses its incubator and the South East England Development Agency's (SEEDA) Enterprise Hub for Surrey.

The University of Birmingham enterprise strategy was developed in 2001 and currently provides the Embedding Enterprise Education (E³) programme. In this programme, each of the 19 academic Schools of the University of Birmingham were encouraged to apply for an award of up to £10,000 to help with the development of subject-specific enterprise education opportunities linked to accredited modules of study for delivery in 2007 (Smith, 2008). Funds for E3 were provided by the UK government via the Higher Education Funding Council for England (HEFCE) through the University's Higher Education Innovation Fund Round 3 (HEIF3) institutional allocation (p.716).

2.5.5.2 China

Entrepreneurship education is a relatively new concept in China's higher educational institutions. Nevertheless, over the past few years, this concept has been well received (Jun Li *et al.*, 2003). After the economic reformations of 1978, Chinese peoples' perception of entrepreneurship has changed greatly and more efforts of encouraging more highly educated people to become entrepreneurs have been made (Sizong Wu and Lingfei Wu, 2008). The emergence of township and village enterprises, in the second half of the 1980s represented the main focus of Chinese economic dynamism and further development in its private sector provided the main source of sustainable economic growth (Yeung, 2004; Jun Li, 2002).

A second form of entrepreneurship involved the activities of private entrepreneurs who set up either small family-based businesses (with fewer than six employees) or private enterprises (employing six or more individuals). Small state-owned enterprises were also taken over by entrepreneurs through "subcontracting" or "management buy-outs". Other small-scale entrepreneurial activities coexisted in the form of joint ventures and shareholding cooperatives. To determine how and why entrepreneurship in China has grown and developed from such modest beginnings during the 1980s to its present scale and impact, will require an empirically rigorous approach to this rapidly expanding topic (Jun Li, 2002).

Recognising that entrepreneurship is a driving force behind a regional economy and an effective way to help ease employment pressure on university students, the Chinese government has made great efforts to support entrepreneurial behaviour (Sizong Wu and Lingfei Wu, 2008). The Chinese government has made a series of policy changes and created supportive initiatives in an effort to create an entrepreneur-friendly environment (Chen, 2001; Di, 2002). The highlight of these developments was the decision taken by the Ministry of Education in 2001 to introduce, in selected universities, entrepreneurship education at undergraduate level. As the pilot initiative successfully developed, there is hope that entrepreneurship education will be formally introduced and promoted on a wider scale (Jun Li *et al.*, 2003). They added that at the National Working Conference in Entrepreneurship Education, held by the Ministry of Education in Beijing in April 2002, some emerging models were identified:

A personal quality development approach. This model of entrepreneurship education was adopted by the Renmin University of China. It emphasises raising student awareness of entrepreneurship and the improving personal qualities in terms of adaptation, creativity and innovation. In this approach, business skills development through tailor-made training and coaching play an important role. The university also makes new selective modules available for students, including entrepreneurship, venture capital, and business venture management.

A business venturing skills development approach. Entrepreneurship education in Beijing Aerospace University utilises this approach. The university has created a campus-based, student venturing park and set aside \$3 million as a dedicated business

venture fund. It also set up a business venture training institute, where courses such as business venture management, business plan writing as well as advice and support on new venture creation is on offer. The institute also helps students assess business plans and can assist them in obtaining access to seed capital.

An awareness raising and skills development approach. This is the approach chosen by Shanghai Jiaotong University. For decades Shanghai Jiaotong University has built up its strength in science and technology. Based on this perceived competitive advantage, the university introduced entrepreneurship education to raise awareness of self-employment as an alternative option through the commercialisation of R&D outcomes. Moreover, the university organised a student business plan competition and set up innovation funds to support business ventures by students.

In terms of Chinese culture, the notion of *guanxi* (or personal network relationships) is the key to successful entrepreneurship and small business development (Yeung and Tung, 1996; Pun *et al.*, 2000, Gibb and Li, 2003). In addition, Chinese peoples' networking skills are perceived as strong around the globe. This is an advantage the Chinese people have had during the process of becoming a new economic power.

2.6 Entrepreneurship Education Culture and Demographics

2.6.1 The Cultural Issue

Entrepreneurship is strongly encouraged in the educational system, especially in tertiary education. However, some figures in management are reluctant to change in terms of policy, budget, and thinking. This relates to the attitudes and culture of the leadership in the organisation. The discussion below will focus on basic criteria underlined by Hofstede, which touches on various aspects of individual and organisational behaviour and holds implications for entrepreneurship. Hofstede (1980; 2001) defines culture as a set of shared values, beliefs and expected behaviour. According to the Oxford English Dictionary (1997), 'culture' may be defined as, 'the customs, civilisation and achievement of a particular type of people, including improvement by mental or physical training'.

The concept of culture has been useful in explaining the achievement of broad organisational goals such as innovation, service, and quality enhancement. The survey of attitudes of IBM employees from 53 national cultures (50 individual countries and 3 regions) around the world relies on the work of Hofstede (1991) and Hofstede and Bond (1988) by providing a framework that helps identify dimensions based on differences in national culture. The dimensions are Power Distance, Uncertainty Avoidance, Individualism/Collectivism, Masculinity/Femininity and the more recently identified Confucian Dynamism (Goodwin & Goodwin, 1999).

Hofstede (1991) provides a framework containing five dimensions that he believes can be used to differentiate between cultures. These include:

- Power distance: the degree of inequality among the people that the population of a country consider normal.
- Individualism: the degree to which people in a country prefer to act as individuals rather than members of groups.
- Masculinity: the degree to which such "masculine" values, such as assertiveness, competition, and success are emphasised, as opposed to such "feminine" values as quality of life, warm personal relationships, service, etc.
- Uncertainty avoidance: the degree to which people in a country prefer structured over unstructured situations.
- Long-term orientation: a stress on virtuous living in this world, with thrift and persistence as key virtues.

Power Distance is the extent to which the less powerful members of institutions and organisations within a country expect and accept the unequal distribution of power (Hofstede, 1991, p.28). Consequently, the higher the score on the Power Distance Index (PDI) reflects a greater dependency on the leader in every organisational unit, such as the family, school or workplace. Hofstede reveals that Malaysia had the highest power distance score of all the countries measured, with a Power Distance Index (PDI) of 104, while New Zealand, with a PDI of 22, had the fourth lowest score (Hofstede and Bond, 1988). This means that superiors (leaders) and subordinates (followers) consider each other as essentially unequal. Its organisations centralise power as much as possible and subordinates are expected to be instructed what to do. There are a lot of supervisory personnel, part of complex hierarchies. Information on salaries shows huge disparities

between those at the top of organisations and those at the bottom. Workers are relatively uneducated and manual work has a much lower status than office work. The boss is a good father (Hofstede, 1991: p.35). This situation allegedly occurs in the majority of Malaysian organisations and as a result, problems such as bureaucracy, the abuse of power and corruption have become major issues.

However, a study by Goodwin & Goodwin (1999) found that the majority of cultural research undertaken in Malaysia has failed to distinguish between the different ethnic groups within the country. They added that Hofstede's measurements of cultural dimensions were based on Malaysia as a whole, therefore making it difficult to make predictions about the different directions in which the country may be headed. Hence, it may be dangerous to draw conclusions based on national culture, without also considering ethnic differences within a nation.

Instead of culture, as depicted in Robinson *et al.*, (1991), demographic variables are most often examined in this type of research. These variables may include; family background, birth order, role models, marital status, education levels of different family members, socioeconomic status, work experience, and work-habits (Brockhaus, 1982; Collins, Moore and Unwalla, 1964; Hisrich, 1986; Jacobowitz and Vidler, 1982; Sexton and Auken, 1982; Swayne and Tucker, 1973). Several studies support the argument that demographic characteristics, such as age and gender, and individual background, such as education and previous employment experience, have an impact on a person's entrepreneurial intentions (Kristiansen and Indarti, 2004). According to the *Global Entrepreneurial Monitor*, the general attitude of the public toward entrepreneurship and the understanding and support of the importance of entrepreneurship in society are key social and cultural norms (Reynolds *et al.*, 2000). The potential impacts of higher education on students consist of three broad aspects. The first is their personal development, including changes in attitudes and values. The second is concerned with changes in their abilities, and the third is connected with possible social impacts (West and Hore, 1989). Personal and social growth are intrinsically linked with the development of entrepreneurial identity, this growth can encompass early life and family experiences, education and career formation, and social relationships (Rae, 2005).

2.6.2 Gender

Several studies have suggested significant differences in the rate of new business creation between men and women. Specifically, it has been shown that, on a worldwide scale, women are much less likely to be involved in entrepreneurship than men (Maria Minniti and Carlo Nardone, 2007). This finding is supported by Fagenson and Marcus (1991). They found that feminine characteristics, when compared to masculine attributes, are less suited in helping women become successful managers and entrepreneurs. Although very interested in starting a business, females are still significantly less likely than males (62 percent versus 72 percent) to want to start a business of their own (Kourilsky and Walstad, 1998). Allen *et al.*, (2006) in a recent GEM report of entrepreneurial activity rates in 40 countries stated that men are much more active in terms of starting up a business.

However, in China and Malaysia the situation has changed in recent years. In China, (15.73 percent) and Malaysia (11.13 percent) it shows that women have been more active in starting a business when compared to their male counterparts (15.70 percent and 11.05 percent respectively); this conflicts with Othman *et al.*, (2006, p. 57) who find that the majority of entrepreneurs in Malaysia are male. Hence, the male domination of entrepreneurship has changed slightly during the 21st century. Deakin and Freel (2003) view one of the factors is 'hidden' entrepreneurial activity. For example, women often support their spouses' business; they make critical business decisions and provide valuable advice. Currently, research in Britain between 1984 and 1999 found that economic activity rates increased in the female population from 66 to 72 percent. This increase is likely to have been partially affected by those who opted for self-employment (Cromie *et al.*, 2003). Wilson *et al.*, (2007) strongly support this notion. They found that the effects of entrepreneurship education in MBA programmes on entrepreneurial self-efficacy proved greater for women than for men. Another study sampled 95 senior undergraduate students and 189 entrepreneurs who were employed in two high-technology industries. It was found that women and men utilise their peculiar stocks of human capital and that the two sexes use fundamentally different processes in the identification of opportunities (DeTienne *et al.*, 2007). This is in line with Fischer *et al.*, (1993) who find a major obstacle in researching this topic is the lack of integrative

frameworks for understanding the nature and implications of issues related to gender and entrepreneurship.

2.6.3 Age

Many people aged 30 or below may have not acquired sufficient organisational experience, while those aged 45 and above may no longer possess the required energy (Cromie *et al.*, 2003). Their study revealed that the average age category for those starting ventures was 33-35. This is within a decade, approximately, of completing full-time education in the case of most university graduates (Garavan and O’Cinneide, 1994b). Othman *et al.*, (2006) find that they were mostly in the 30-39 age group and the majority of them became business owners before they were 40 years old. Interestingly, the majority of these entrepreneurs were between 30-45 years old (Jun Li & Matlay, 2006). To conclude, the practical age range to be an entrepreneur starting their own business should be between 30 and 45. In this regard, the GETv2 Test is anticipated to be able to determine the practical age of entrepreneurs based on polytechnic respondents.

This culture is still so deeply entrenched in Asian society that today, although 20 percent of all young people have the potential to become entrepreneurs, only 5 percent actually do so (Faustino, 2005). When former Indian Prime Minister Atal Bihari Vajpayee spoke at the *Asian Summit on Youth Entrepreneurship and Employment*, he said that the governments and citizens of Asia, especially the young people, need to alter their mindset regarding entrepreneurship. The young, educated, generation must explore workplaces other than traditional government employment and governments should encourage the youth to look into entrepreneurship⁹.

2.6.4 Educational Background

A study in India revealed that educational background has importance in shaping entrepreneurial intentions as well as for business success (Sinha, 1996). While they came from a wide range of educational backgrounds, starting from minimal primary education to tertiary education, most of the entrepreneurs expressed an interest in

⁹ Asian Summit on Youth Entrepreneurship and Employment, Parliament House, New Delhi, 30 October 2003.

further education and for ways that could increase their knowledge or skills, and all this despite significant differences in family background and environment, such as their financial situation (Raduan Che Rose *et al.*, 2006). Thier study also found that many founding CEOs with tertiary education expressed satisfaction in their career, while founding CEOs without tertiary education agreed on its importance and are either in the midst of completing a distance learning course or are planning to pursue further education and yet they are still among the most successful entrepreneurs in Malaysia. The importance of education in relation to the government is discussed in paragraph 2.5.3. From this starting point comes a responsibility for the government to plan programmes related to entrepreneurship education for those within the education system.

2.6.5 Family Business Background

Influence from oneself, one's family and one's peers often affect a graduate's career aspirations, entrepreneurial motivation or nascent potential (Matlay, 2006). Personal resources, such as family support, are deemed important by Vesper (1990). The family development idea focuses on the nurturing and support that exists within the domestic sphere of an entrepreneurial family (Kuratko & Hoggets, 2004). It is thought that a characteristic of entrepreneurship is that it tends to pervade into family life. The entrepreneur is often unable to divorce their business life from their social life (Deakin, 1996). In this respect, family background plays two roles. Firstly, if an entrepreneur has previous experience of the effects of entrepreneurship due to a family member being involved in a self-propelled venture, then they are more prepared for the consequences of their own actions. Secondly, familial support of entrepreneurship can make a positive contribution to its sustainability (Morrison, 2000).

2.6.6 Religion

Anderson *et al.*, (2000) explore the role of religion in the formation and development of enterprise culture. According to their research, in the United Kingdom under Margaret Thatcher's leadership - in which entrepreneurial activity was encouraged by Thatcher's use of an entrepreneurial theology - a theological underpinning of enterprise developed

into a rhetoric that elevated entrepreneurship to a new moral high ground. Research has also been carried out on those with non-Christian values (Carswell and Rolland, 2007). In their studies of 2000 entrepreneurs from New Zealand, they found that non-Christians are more likely to be involved in entrepreneurial activity than Christians. They also suggest that very little research has been conducted on those with non-Christian values. Some religions, such as Islam, regard entrepreneurship as a positive thing. Islamic economic texts routinely cite passages from the Quran that they interpret as encouraging entrepreneurship, such as the following: “When the prayers are ended, disperse and go in quest of Allah’s bounty” (Qur’an 62:10). Graafland *et al.*, (2006) stated that business is considered an important part of Islam and thus Muslims are encouraged to choose business and entrepreneurship as their main source of livelihood and as part of their social responsibility.

Religion in general and Islam in particular, are largely under-researched aspects of entrepreneurship and organisation studies. Yet, religion is not ‘left at home’ when an entrepreneur goes to work; it is infused into their working life (Caroline Essers and Yvonne Benschop, 2009). Sloane reveals the way Malay entrepreneurs justify their profession, with reference to parts of everyday that include: traditional Malay customs (adat), family and village (kampung), affirmation of religious free will (ikhtiar), sincerity (ikhlas), and religiously correct (halal) behaviour. There has been a vehement rejection of revivalist Islamic (dakwah) visions of social economy (Nagata, 2000).

Development in human capital that is progressive in thinking and attitude and underpinned by ethics and universal values is espoused by Islam Hadhari (Malaysia, 2006). Islam Hadhari was introduced in 2004 as a comprehensive and universal developmental framework for the nation. This framework was formulated as an approach that enjoins progress and advancement as an imperative for the people, while being firmly rooted in the universal values and injunctions of Islam.

A national religion that provides some kind of support for entrepreneurship, and thereby gifts metaphysical legitimisation for entrepreneurial activity, can be understood to make a positive contribution to a munificent environment for entrepreneurship (Sarah *et al.*, 2008). Islam as a way of life provides a complete system for mankind, for instance as

cited from Farid (2007) it includes a banking system, laws, financial and *Zakat*¹⁰. In addition, business in Islam is one of the important resources of income and considered worship (*ibadah*¹¹) as mentioned in Al Qur'an: An Nisa, 29.

“O ye who believe! Eat not up your property among yourselves in vanities: But let there be amongst you Traffic and trade by mutual good-will: Nor kill (or destroy) yourselves: for verily Allah hath been to you Most Merciful!”

This research therefore looks at the influence of religion in the field of entrepreneurship in order to add to our knowledge in this area.

2.6.7 Ethnicity

The 1959 riot became a hot topic in developing an economic policy as discussed detail in Chapter 6, paragraph 6.2.2. In Malaysia attitudes toward enterprise creation have previously been divided along racial lines, due to the identification of race with a particular economic activity. However, the situation is beginning to change as the whole of Malaysian society begins to modernise and social restructuring begins to take effect. The Chinese Malays and to an extent the Indian-Muslim community have had a long tradition of entrepreneurship. In fact, the handing over of family businesses from father to son is the norm for these groups. This is in contrast to the Bumiputera community who, as a whole, have not had a tradition of entrepreneurship. Rather, they were accustomed to either being employed in the government service, or self-employed as agricultural farmers or smallholders. There were exceptions to the rule where Bumiputeras were involved in business nevertheless, although the numbers involved were small (Faustino, 2005). For instance, in the Ninth Malaysia Plan (2006-2010), the National Entrepreneurship Institute (INSKEN) is gearing towards producing 20,000 new Bumiputera entrepreneurs in tandem with its objective of becoming the country's centre of excellence for entrepreneurial development (BERNAMA, 16 August, 2008).

¹⁰ the giving of a small percentage of one's income to charity (Wikipedia)

¹¹ *ibadah* is the ultimate obedience, the ultimate submission, and the ultimate humility to God along with the ultimate love for him.

2.7 Conclusion

This chapter reviewed the relevant literature regarding entrepreneurship and entrepreneurship education. The increase in the number of entrepreneurship education courses, activities and programmes and the impact on individuals' tendencies towards entrepreneurship have encouraged researchers to examine the role of polytechnics in promoting entrepreneurship, the entrepreneurial curriculum and course content as well as entrepreneurial activity and programmes. The exploration of entrepreneurship knowledge indeed clarifies the concept and context of entrepreneurship, entrepreneurship education, and small businesses. The in-depth explanation of its roles, objectives and its relationship to the national economic growth and unemployment inevitably justifies "why" this study needs to be conducted in the educational system. Finally, based on the empirical evidence discussed in the literature, the theoretical frameworks and the research methodology pertaining to this study will be discussed in the next chapter.

CHAPTER 3
LITERATURE REVIEW
PART II: ENTREPRENEURSHIP CURRICULA

3.1 Introduction

The discussion in this chapter will broadly cover the concept, definition, objectives, content and assessment method of a curriculum. It follows that the process of developing a curriculum includes curriculum planning, implementation, monitoring and changes and improvements. The government policy is extremely important as a starting point in the curriculum development process. In this chapter a clear description of how the curriculum was developed in the DPCCE will be given. Effective methods of teaching and learning entrepreneurship will be discussed in the pedagogical issues section. In addition, the model that is normally used regarding entrepreneurship and education will be explored in order to discover what produces an effective and efficient curriculum and delivery method. The chapter will conclude with a discussion of the development of a research framework.

3.2 Curriculum: Concept and Contextual Issues

3.2.1 Definitions

The origin of the word “curriculum” is from Latin and more recently through the old French verb, ‘curere’ meaning ‘to run’ (Ellis, 2004: p.3). Tyler (1949) perceives curriculum as that which is taught to students of a school with the aim of attaining that institutions’ particular educational goals. Taba (1962) conceives curriculum as a way of preparing the youth to be productive members of society when their time comes. The curriculum is an organised set of experiences created for the benefit of the learners under the auspices of a school, to enable them to grow and fit into society, both on a personal and social level (Wheller, 1967; Tanner and Tanner, 1975). Stenhouse (1975: p.4) opined that a curriculum is an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice.

It has been defined as an institution, as a process of identifying the concepts and skills that students need to learn and as a subject of study at university level (Goff, 1998). In the learning process, a curriculum is viewed as a plan for learning (Taba, 1962), a theory for teaching and learning that encompasses aims, content and methodology (Grimmit, 2000). There are, of course, subjects and it is subjects that are the basic building blocks from which a curriculum is constructed (Kliebard, 1999: p.10). Johnson (1967: p.129) concluded that the accepted definition is that of a planned learning experience and a popular definition is that a curriculum is a structured series of intended learning outcomes. In conclusion, the definitions above can be understood to suggest that a curriculum is simply the totality of the planned experiences chosen by the institution so as to affect a desirable pattern of student behaviour.

3.2.2 Curricula as a Field of Study

The term curriculum theory came into general use in the United States in the 1920s (Walker & Soltis, 2004; Caswell, 1988). In 1918 Professor Franklin Bobbit of the University of Chicago published the first general book on the subject (Caswell, 1988; Null, 1999). Subsequently, in 1920 Los Angeles he directed the first city-wide programme of curriculum revision (Caswell, 1988: p.32). Bobbit was certainly one of the first to draw an analogy between the efficiency achieved in business and industry and the efficiency that can be achieved by creating a sound curriculum (Kliebard, 1988: p.51). Although barely recognised nowadays, Bobbit pioneered curricula as a field of study in the twentieth century (Null, 1999).

In US, curriculum research had a glorious blossoming between 1895 and the 1930s in step with the spurt of growth in public schools and growing public determination to modernise the education system (Walker, 2003: p.131). According to Hargreaves (1994: p.2), since the 1960s curriculum studies has emerged as one of the most substantial fields within educational research and development. Although the purpose of education has long been debated, it was only during the twentieth century that attempts were made to describe, analyse and interpret the curriculum as a distinct phenomenon (Pratt, 1980). The issues related to curricula include educational goals and objectives, subject matter, learning conditions, curricula design, and the issue of planning (Gress & Purpel, 1988).

In this case the curriculum indicates what is to be learned, not why it should be learned (Johnson, 1967: p.130).

Forming an understanding of the curriculum from disciplines such as political science, philosophy, psychology, and theology often eclipses practical concerns of curriculum development in scholarly and even professional journals. This shift in emphasis from curriculum development to curriculum understanding is attributed to a purported "reconceptualisation" of the curriculum field that began during the 1970s. Since that time, a historical account of the reconceptualisation has prevailed (Wraga, 1998). Wraga (2002), in his study, proposed two additional items for the research agenda of the curriculum field: (a) the construction and synthesis of work from historic and contemporary fields and (b) the testing of numerous new theories in a practical environment. These wide-ranging projects would provide opportunities for fruitful conversations between curriculum theorists and their pragmatic colleagues.

In this study, the discussion of curricula emphasises knowledge of the planning and implementation associated with other activities such as developing, monitoring and assessing the effectiveness of a entrepreneurship curriculum during a certain period of time. A key concern is how the elements above can be organised in such a way that an effective and successful enterprise curriculum is produced. In other words, the approach of this study will ultimately contribute to the field of entrepreneurship education, particularly to the process of curriculum development.

3.3 Entrepreneurship Curriculum and Content

Entrepreneurial education incorporates both informal and formal methods. The methods used, content, and delivery modes will vary depending on the student group. The formal aspects of entrepreneurship education focus on providing the theoretical and conceptual frameworks which underpin entrepreneurship. This theory is delivered through didactic methods such as lectures and suggested readings. The educator acts as an expert by instructing and facilitating the learning process. These methods are assessed by formal examinations which test knowledge and aptitudes. The informal aspects of entrepreneurship education combine and integrate with the formal aspects of education.

The informal aspects of entrepreneurship education focus on skills building, attribute development and behavioural change (Hynes, 1996).

A cross-disciplinary approach can be taken to entrepreneurship (Galloway and Brown, 2002; Hytti and O’Gormon, 2004). It can be linked to certain disciplines, such as ICT, to add value to the competency base of the student and this will result in greater participation in self-employment in that discipline (Hynes and Richardson, 2007). Inter-disciplinary approaches to the design of higher education curricula will build and stimulate creativity, innovation, leadership and entrepreneurship. Curricula must also equip undergraduates with appropriate skills to enable them to compete in an ever-changing market. Curricula must be reviewed, and courses that are no longer relevant must be removed. Peer review and industry collaboration must be enhanced in curricula development and evaluation (Malaysia, 2007). However, McMullan and Long (1987) argue that entrepreneurship education should include skill-building courses such as negotiation, leadership and creative thinking and exposure to technological innovation and new product development. Indeed, a dynamic and relevant curriculum and pedagogy are needed to ensure the health and strength of an institution.

3.3.1 Entrepreneurship Course Objective

Garavan and O’Cinneide (1994b) suggest a range of objectives including: To acquire knowledge relevant to entrepreneurship, to acquire skills in the use of techniques, to identify and stimulate entrepreneurial drive and talent, to undo the risk of and balance of many analytical techniques, to develop, enjoy and support enterprise, to develop attitudes to change and to encourage start-ups and new ventures. In the context of education, Gibb (1988) suggests curricula have employed a mixture of objectives including:

- creating a much greater economic awareness among young people of all ages;
- creating a wider understanding of industry, business and management;
- developing understanding of small business and its management systems;
- introducing young people to the concept of new venture development via simulation exercises in school;
- developing transferable skills such as communication, presentation, negotiation, problem-solving, as well as IT competency;

- opening gateways to better career planning;
- creating work experience for students and teachers; and
- creating business partnerships between schools and colleges and individuals or groups of firms.

In general, most European courses provide background modules focused on the importance of entrepreneurship and on why people become entrepreneurs (Gibb, 2002). However, Linan (2007) suggests the objectives of entrepreneurship education are based on the stage of the entrepreneur; for example awareness education for potential entrepreneurs, start-up education for potential and nascent entrepreneurs, continuing education for dynamic entrepreneurs and education for entrepreneurial dynamism.

3.3.2 Entrepreneurship Course Content

While students still need to develop their business skills and understanding, more attention needs to be paid to the development of their entrepreneurial skills, attributes and behaviours. This means introducing modules and courses specifically designed to develop in students the awareness and characteristics of the entrepreneur (Kirby, 2004). Therefore, the content and teaching methods for entrepreneurship education need to be specifically designed differently from other general business management courses. The designed content of entrepreneurship education should consider the relationship of personality structure and attitude towards entrepreneurship, which eventually influences entrepreneurial intent and aspiration to start a business venture. Gibb (1993) and Johannison (1991) identify five content levels for development of entrepreneurial knowledge that can be used in developing entrepreneurship content.

Table 3.1: Entrepreneurship Content Framework

<i>Level of learning</i>	<i>Competencies</i>	
	<i>The individual</i>	<i>The context</i>
KNOW-WHY (attitudes, values, motivation)	Self-confidence, achievement motivation, perseverance, risk acceptance	Entrepreneurial spirit, availability of mentors and role models
KNOW-HOW (skills, abilities)	Vocational skills	Complex occupational and business structures
KNOW-WHO (social skills, short- and long-term social skills)	Networking capability	Production and social networks

KNOW-WHEN (insights, intuition)	Experience and intuition	Industrial tradition
KNOW-WHAT (knowledge)	Encyclopaedic knowledge, institutional facts	Information networks, vocational training and a varied cultural life

Source: Adapted from Gibb 1993; Johannisson, 1991.

3.3.3 Entrepreneurship Course Assessment

In general, evaluation and assessment of entrepreneurship education appears to be via projects, with reliance also upon classroom assessment. In the UK, a substantial number of institutions still use the written examination as the main form of assessment (Gibb, 2002). It was legitimate by Wyckham (1989) as cited from Henry *et al.*, (2005), no universally accepted criterion which can be used to evaluate the effectiveness of an entrepreneurship programme has, as yet, been identified. In addition, (Wyckham, 1989) has argued that most entrepreneurship education programmes are measured in three ways. First, the knowledge and skills of students are assessed through examination. Second, courses and teachers are evaluated through student evaluation surveys. Third, after the course has been completed data on the employment and income status of the graduate participants can be obtained and evaluated.

The assessment process is continuous throughout the semester and it is based on the business transaction that was carried out. Assessment is based on reflective training in the form of individual, department or company report (Norasmah Othman *et al.*, 2008). However, Garavan and O'Connell (1994: p.5) have suggested that longitudinal research designs, using control groups to compare participants with individuals who did not have entrepreneurial educational experience, are needed to examine the lasting effects of entrepreneurship education and training interventions. Storey (2000) also advocates such an approach but suggests that the most appropriate way to assess the effectiveness of entrepreneurial support programmes is to include a control sample of matched firms which are identical on the basis of age, sector, ownership and geography. Schieb-Bienfait (2004) argues that there are major challenges for measuring educational effectiveness. Priority is on measuring shorter term results, regarding student satisfaction. Moreover, Combs *et al.*, (2008) argues that evaluations completed by students at the conclusion of the semester do not provide instructors with enough specifics on the effectiveness of their courses.

The process of measuring the level of entrepreneurial knowledge is broadly analogous to Johannisson's (1991) 'know what' content level of entrepreneurial knowledge. For instance Schieb-Bienfait (2004) used the Johannisson taxonomy approach (1991) in his study by evaluating the causal impact of the programme on student profiles and capabilities (knowledge, abilities) and examining the impact of entrepreneurship programme on students' thinking and attitudes towards entrepreneurial activity, business-start-ups. In addition, Henry *et al.*, (2005) suggest that central to such evaluations are an assessment of the cost effectiveness of a particular programme as well as its opportunity costs.

For the purpose of the study, the evaluation will focus on the students' skills and knowledge as mentioned by Wyckham (1989) due to the effectiveness of the curriculum. The findings from the study will be used to assist the development of the entrepreneurship curriculum (curriculum/syllabus, objective and assessment) in Malaysian polytechnics.

3.3.4 Curriculum Monitoring

Curriculum monitoring is one of the methods to evaluate the course programme. According to Kailer (2007) entrepreneurship education evaluation concepts were developed by Hills and Morris (1998: p.46), Henry *et al.*, (2003: p.189) and Fayolle (2004a). Monitoring is more than real evaluation which the preferred type of evaluation is asking the recipients for their opinion concerning the programme (Hytti and Kuopusjarvi, 2004: p.22). In Malaysian polytechnic, curriculum was monitored by the CDED and Polytechnic Management Sector from the perspective of content and delivery method respectively. In addition, the monitoring also covers the needs of space and equipments regarding to the courses or programmes offered in such institutions under DPCCE.

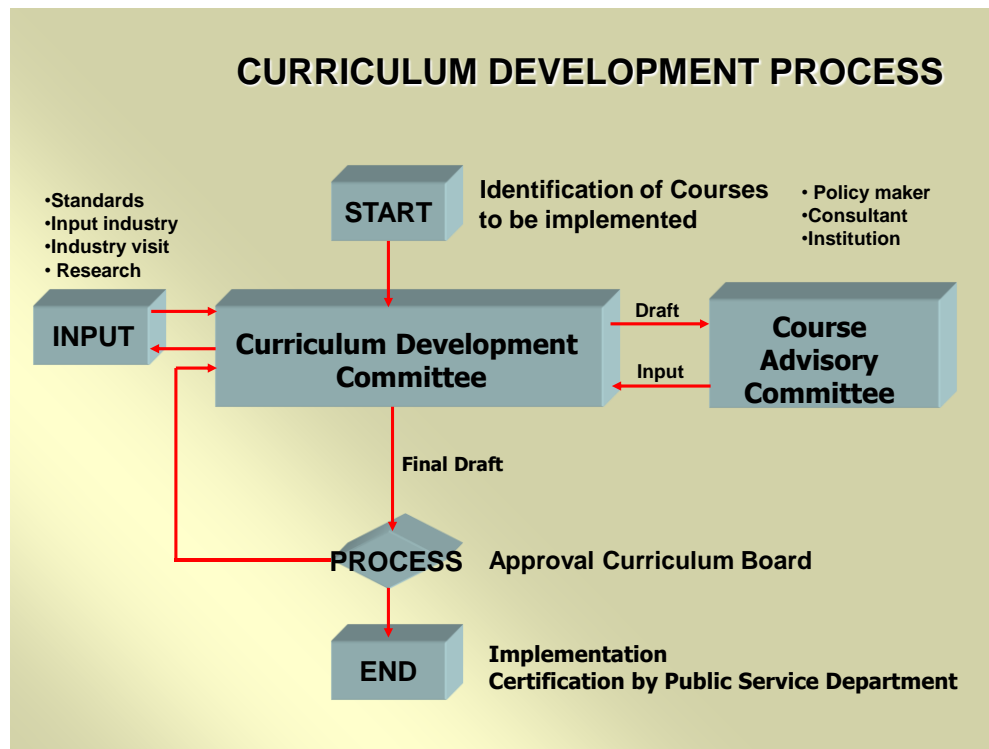
3.4 Curriculum in DPCCE – An overview

3.4.1 The curriculum development

The curriculum in Malaysian polytechnics is centralised, under the charge and supervision of Curriculum Development and Evaluation Division (CDED), in the Ministry's. The function of the division is to develop, manage, monitor, revise and

replace with a new curriculum after a certain period of time. In general, curriculum development process in DPCCE shown in the figure 3.1 below. The discussion below will be based on documents provided by CDED includes curriculum document (restricted), the manual curriculum development (unpublished), and meeting reports (confidential)¹².

Figure 3.1 Curriculum Development Process in DPCCE



Source: MoHE, Curriculum Development and Evaluation Division (2006)

In general, Figure 3.1 above shows the curriculum development process in polytechnics involves a few processes such as identifying needs, the development process, revise and refine a draft of curriculum. The final draft of Curriculum tabled to Curriculum Board for approval before being implemented in institutions. The next process is conducted a curriculum orientation programmes, get a recognition from Public Service Department (PSD), implement curriculum in institutions, monitor and evaluate curriculum implementation, improve and review the curriculum.

¹² “Restricted”, “Secret” or “Confidential” “unpublished” and “For internal use only” are the term used in CDED to protect the documents as a government right and property

3.4.2 Entrepreneurship Curriculum in Malaysian polytechnic

The details of existing entrepreneurship curriculum in Malaysian polytechnics are shown in Table 3.2 below:

Table 3.2 The Content and Objective of Entrepreneurship Curriculum in Polytechnic

MODULE	CONTENT	OBJECTIVE	REMARKS
R 2001	entrepreneurship history, entrepreneurship concept and definition, entrepreneurs and business people, and entrepreneurship as a career option	<ul style="list-style-type: none"> • Understand the concept of entrepreneurship: identify the role and contribution of entrepreneurship in helping self-development, family and society and providing the Business Plan 	Compulsory for all, incorporated in co-curricula module
P 3117	Introduction To Entrepreneurship, Entrepreneurial Issues, Inculcating Entrepreneurial Culture, Generation Of Entrepreneurial Idea and Opportunities, Basic Management, Basic Marketing, Financial Management, Business Proprietary Establishment and Procedures and Business Plan	<ul style="list-style-type: none"> • Create awareness about entrepreneurship and the important of entrepreneurship to the nation • Enhance the motivation and self-confidence to produce a creative and innovative entrepreneur • Generate ideas and identifies the opportunity and risk in business • Knowledge and entrepreneurial skills needed to start a business • Identify and mobilisation of the resources needed to create the entrepreneurship activity 	Compulsory for commerce students
P 3130	Introduction To Entrepreneurship , Entrepreneurial Issues, Inculcating Entrepreneurial Culture, Generation Of Entrepreneurial Idea and Opportunities, Basic Management, Basic Marketing, Financial Management, Business Proprietary Establishment and Procedures and Business Plan	As same as P3117	Elective for non commerce students

Source: Curriculum Development and Evaluation Division, DPCCE, MoHE.

The focus of the study is to investigate the three modules above; whether it is relevant or not to the current situation i.e to the industrial needs, the ability of the module to provide student to be self-employed and whether the curriculum is in line with the entrepreneurship education model. In addition the study is anticipated to find the

appropriate content of entrepreneurship that should be employed in the polytechnic educational system.

3.5 Pedagogical Approaches

Pedagogy or teaching method is of paramount importance in the learning process, involving effective method and approach, competent lecturer, and teaching aid. Subsequently, there has been debate on whether entrepreneurship are born or made. The debate arises from a few examples of a few giant entrepreneurs who actually appear to have been born to be entrepreneurs, for instance Richard Branson and Bill Gates. However, there is now consensus, in the literature at least, that entrepreneurship can be taught and the debate has now shifted to what should be taught and how it should be taught (Lourenco and Jones, 2006). Levie's study reflects on how courses are taught and places emphasis upon the importance of learning from: real situations; interactions by role playing and use of projects; and business plan development and presentations (Gibb, 2002).

3.5.1 Traditional Methods

According to McKeown *et al.*, (2006) most of the Higher Education Institution (HEI) programmes in the UK (86%) still use very traditional teaching and learning methods. Traditionally, entrepreneurship has been taught in classrooms using a didactic approach; well-known as "teacher centred" ~ the students gain knowledge as the teacher is teaching. The use of didactic methods helps students to become accustomed to using immediate data, analysis and interpretation of these data (Garavan and O'Conneide, 1994b). The examples of didactic methods include lectures, provision of selected readings, text books, seminars and assignments (Garavan and O'Conneide, 1994b; Hytti and O'Gorman, 2004). However, Davies and Gibb (1991) criticise the adoption of traditional education methods, which focus mainly on theory and didactic approaches, suggesting that they are "inappropriate" in the teaching of entrepreneurship.

Klandt (1993) suggest that the most frequently used method in teaching entrepreneurship include: reading, lectures, guest speakers, case studies, on-site visits, research papers, thesis/dissertations, and workshops. For specifically educating **about** entrepreneurship, Klandt (1993) added the following methods more commonly utilised: consulting services by students and researches while educating **for** entrepreneurship involves using techniques such as: videos, practical work, writing business plans, computer simulations, role playing games, working with entrepreneurs, and joining a students' entrepreneurial club. Presently, there are other ways in which a realistic image of the entrepreneur can be brought into the classroom, such as accessing a Web site, watching a television series and using a training pack (Heck *et al.*, 2000; Hytti and O'Gormon, 2004).

In awareness of the issue, the discussion below will focus on the alternative methodologies that related to entrepreneurship teaching and learning entrepreneurship;

3.5.2 Non-Traditional Methods

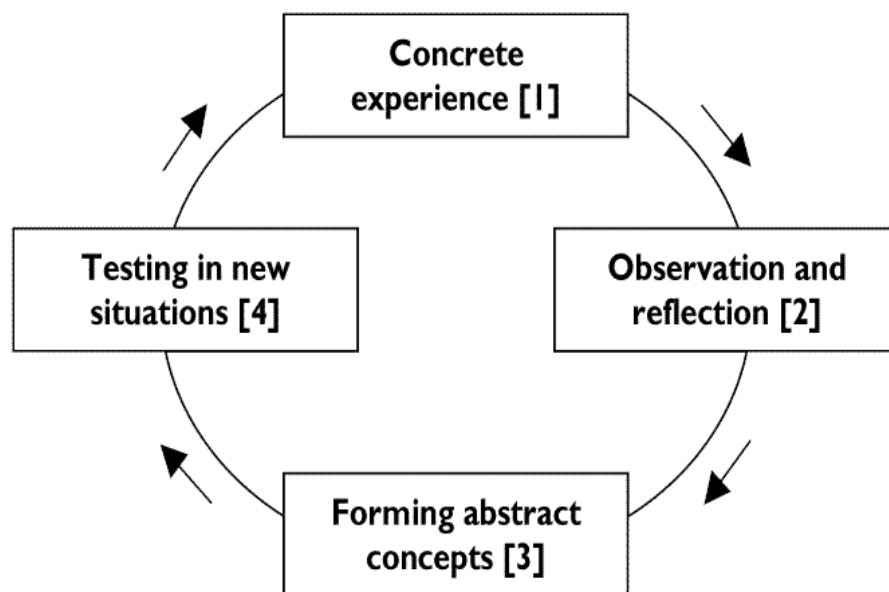
3.5.2.1 Experiential Learning (EL)

Experiential learning builds on the work of several great social scientists and philosophers of the earlier part of the 20th century (Chell, 2001). These themes stem from the work of Dewey, Lewin, and Piaget (Kolb, 1984). It is common to all three traditions of experiential learning to put emphasis on development toward a life of purpose and self-direction as the organising principle for education (p.18). The association for Experiential Learning Association (ELA) defines EL as a process in which a student can create knowledge, skills and values from direct experience. Experiential learning theory defines learning as "the process whereby knowledge is created through the transformation of experience (Kolb and Kolb, 2005). EL is formulated based on the student and not the facilitator. The student is involved in carrying out activities, formulating questions, conducting experiments, solving problems, being creative and creating meaning from the acquired experience (Esters, 2004). Experiential learning is a learner-centred approach that caters to individual learning styles. Encouraging reflection along with the activity structure has proven to be an effective component of the cycle for students (Miettinen, 2000). Experiential learning provides the indigenous student with the task of being conscious about and

taking responsibility for the reality of his/her own political and cultural awareness (O'Connor, 2009).

Experiential learning is holistic in that it combines experience, perception, cognition (thinking) and behaviour. Ideas are formed and reformed through experience - a process which permits adaptation (Chell, 2001: p.97). The premise of experiential learning is that individuals create knowledge through the transformation of their lived experiences into existing cognitive frameworks, thus causing individuals to change the way they think and behave (Kolb, 1984). The Experiential Learning Cycle proposes that learning consists of four interdependent constructs as shown in Figure 3.2 below (Kolb, 1984).

Figure 3.2 Structural dimensions underlying the process of experiential learning and the resulting basic knowledge forms



Source: Kolb, 1984: p.42

The learning cycle (see Figure 3.2) starts with active experimentation and leads through concrete experience and reflective observation to abstract conceptualisation (Kirby, 2003). According to Kolb, the whole experiential cycle is involved in learning through transactions between the person and their environment, that is, reciprocal influences, and as such concerns the complex process of adaptation (Chell, 2001). In entrepreneurship, offering students opportunities to “experience” is a theme among many entrepreneurial education programmes (Solomon *et al.*, 2002: p.71). Entrepreneurship speakers’ programmes are one form of EL that draws famous and successful entrepreneurs to the educational institution to discuss ideas, opportunities and

business management. This programme exposes students to unique experience, lessons that are acquired and issues and challenges as experienced by the entrepreneurs in real life situations. Students in the groups can interact directly with the entrepreneurs to share experience and interests (Norasmah *et al.*, 2008). It might be concluded that, experiential learning becomes the latest and practical approach in entrepreneurship study.

3.5.2.2 Problem-Based Learning (PBL)

Recently there has been great interest in the potential of problem-based learning (PBL) for management education. It is used to develop creative and problem-solving students (Klofsten, 2000). It is particularly useful for entrepreneurship, which is not distinguished as a specific subject but permeates all the activities of the university, including courses, research, and external activities (Gibb, 1987). According to Hanke *et al.*, (2005) PBL was first implemented in the 1950s by Case Western Reserve University and in medical schools in the 1970s. Spence (2001) and Hanke *et al.*, (2005) agreed that PBL means learning is student-centered, with teachers acting primarily in the role of facilitators. Students are encouraged to actively work with material and turn to the teacher for advice, mentorship, and answers to specific problems instead of being passive recipients of lectures. This view is supported by Jones and English (2004) who write that students have a great deal of autonomy over how they learn, when they learn and where they learn. Unlike traditional teaching strategies, it is not a passive experience, but rather a deeper learning process. It includes collaborative activities, goal-driven tasks, intellectual discovery, activities that heighten thinking and activities that provide practice in learning skills. A combination of new technology and traditional resources is used to provide students with a rich variety of learning experiences. The objective is to create an environment in which students are encouraged to engage actively with the entrepreneurial process rather than simply read about it.

The development of the entrepreneurial education curriculum needs to include the principle of experiential and contextual education. Students can develop the skills and required knowledge effectively through the application of the entrepreneurial curriculum in situations that resemble the real business world (Norasmah *et al.*, 2008).

They added PBL provides opportunities to the students to: examine and experiment with what they know, explore what they need for knowledge, develop spiritual skills in order to achieve high performance in their groups, improve their oral and written communication skills, state and defend their arguments with the available evidence, be more flexible in processing knowledge and fulfilling obligation and practice skills that are needed after graduation.

For instance, at the Republic Polytechnic in Singapore, the PBL implementation is structured such that a given curriculum/module is divided into 16 problems to be completed within a sixteen-week semester. Students work in small teams to solve a particular problem within a day to arrive at specific learning outcomes through inquiry, self-directed learning and peer teaching. The entrepreneurship programme called "developing enterprise" (DE) is a free elective designed as a pilot run for second and final year students of the polytechnic who have demonstrated an interest to delve deeper into the dynamics of the entrepreneurial process (Siok San Tan and Frank Ng, 2006).

3.6 Entrepreneurship/ Education Model in the Research

This study will be developed based on the entrepreneurship education model as depicted in the literature. The model will be used as a foundation in designing the entrepreneurship education framework included curriculum in Malaysian polytechnics.

3.6.1 Process Model of Entrepreneurship Education (Hynes, 1996)

This model was developed by Hynes (1996) in the context of experience at the University of Limerick and by observations from other educational and training institutions (Table 3.3). The model provides multiple alternative structures and learning mechanisms to ensure that the meaningful learning takes place. It provides for the transfer of conceptual and theoretical knowledge into practical application and the development of skills. The role of the educator is critical, as he/she needs to strive for a balance between the academic and practitioner perspective. To achieve the objectives of any entrepreneurship programme, careful goals should be set for knowledge, skills and attribute learning. Distinctions need to be made between learning "what" (insightfully), learning "how to" and learning "who with".

Key elements of the module

1. Inputs

Entrepreneurship programmes should not be assumed to be generic in nature but rather take into consideration the requirements and needs of students. Examination of the various antecedent criteria allow us to customise content, assessment, teaching methodologies to be customised more specifically to student requirements.

2. Process

2.1 Content focus

This describes the variation of topics which are incorporated into an enterprise programme, which again will be varied according to student profile. More specific detail on these subject areas can be obtained in the final section of this article.

2.2 Teaching focus

2.2.1 Didactic methods

The use of didactic methods such as lectures, provision of selected readings, text books, and seminars allows for the provision of new information which achieves the cognitive objectives of the programme. The use of didactic methods helps students to become accustomed to using immediate data, analysis and interpretation of these data.

2.2.2 Skills building methods

These methods are used to generate increased effectiveness in the behaviour of students, which result in existing skills enhancement and the development of new skills. Active case studies, group discussions, brainstorming, etc., are used to achieve the objectives of these methods.

2.2.3 Discovery methods

Discovery methods encourage learning through discovery and experiential learning. This involves learning by doing, by involving students in problem solving in real-world situations including the solution and action component. Contact with external organisations provides a greater opportunity for the building up of networks which have potential for career enhancement. Students also work on a consultancy basis in teams

with small firms, which is very effective in providing hands-on experience with the small firm sector.

3. Outputs

The outputs can be assessed on a tangible and intangible basis. The tangible effects are the development of products, prototypes, drawings etc. It is critical to ensure behavioural and skills outcomes also exist in the context of personal skills, behaviour and career outcomes.

4. The environment

The environment incorporates the physical and learning conditions that exist internally in the relevant educational establishment, and also the external general environment which will impact on the career choices available, and will influence entrepreneurship in both a positive and negative manner. It is important that educators and facilitators ensure the immediate environment (learning environment) is conducive to learning. This will involve ensuring that facilities and resources are available and accessible to students. The larger external environment which includes the broader work, economic, social, and technological environment needs to be understood, to provide students with the necessary skills to be successful in this environment.

Table 3.3 Process Model of Entrepreneurship Education

Input Students	Content Focus	Teaching Focus	Output Student
<ul style="list-style-type: none"> • Prior knowledge base • Motivation • Personality • Needs/interests • Independence • Attitudes • Parental influence • Self-esteem • Values • Work experience 	<ul style="list-style-type: none"> • Definition of entrepreneurship • Intrapreneurship • Innovation • New product development • Idea generation • Market research • Feasibility of ideas • Finance • Production • Regulation • People management • Teamwork • Business • Marketing • Management 	<ul style="list-style-type: none"> • Didactic (reading/lectures) • Skill building (case studies, group discussion, presentations, problem solving, simulations, teamwork, projects) • Discovery (brainstorming, personal goalsetting, career planning, consultancy) 	<ul style="list-style-type: none"> • Personal (confidence, communication) • Knowledge (enterprise, initiative, self-employment, business, management and market skills, analytical, problem solving, decision making, communication, presentation skills, risk taking) • Career (improved knowledge, broader career option, broader less structural career perspective)

Source: Adapted from Hynes, 1996

This model becomes a foundation in the process of reviewing the curriculum in the study. According to Myrah and Currie (2006) this framework is operationalises, to a certain extent, the integrated approach. Inputs were assessed through course and programme prerequisites and other required prior learning; content reflected how entrepreneurship was defined in the course and programme, how and where it was offered in the institution and the topics that were taught; teaching focused on teaching methods and student assignments; and outputs were assessed through learner outcomes, benefits, philosophies and value statement.

3.6.2 The Bloom Taxonomy

Bloom's taxonomy is one of the most common tools used in the design of pedagogies for teaching and learning. Since its first publication, Bloom's taxonomy has been translated into 22 languages and has been cited more than any other work in education (Forehand, 2005). During the formulation process of a curriculum, one of the models that is usually referred to is Bloom's Taxonomy, published in 1956. However, a revision of his taxonomy was published in 2001 and was entitled *A Taxonomy For Learning, Teaching and Assessment* written by Lorin Anderson and David Krathwohl (Smythe & Halonen, 2007). According to Krathwohl (2002) the original Taxonomy consisted of six major categories in the cognitive domain. The categories were Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The complete structure of the original Taxonomy is shown in Table 3.4 below. Each learner outcome is written for a specific level of Bloom's Taxonomy that is appropriate for that particular level of learning. Learner outcomes must be stated explicitly so they have only one meaning (Clark *et al.*, 2006). While the literature on critical thinking includes a vast array of definitions, this study uses the Bloom taxonomy (Bloom *et al.*, 1956) to support the analysis of the cognitive levels of test items. The course syllabus, individual academic challenges, faculty teaching goals and overall assessment practices were analyzed using the Teaching Goals Inventory (Angelo & Cross, (1993), semi-structured interviews, a questionnaire and the Bloom taxonomy.

Table 3.4 Bloom's Taxonomy

LEVEL	DEFINITION	SAMPLE VERBS	SAMPLE BEHAVIORS
KNOWLEDGE	Student recalls or recognises information, ideas, and principles in the approximate form in which they were learned.	Write List Label Name State Define	The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
COMPREHENSION	Student translates, comprehends, or interprets information based on prior learning.	Explain Summarise Paraphrase Describe Illustrate	The student will explain the purpose of Bloom's taxonomy of the cognitive domain.
APPLICATION	Student selects, transfers, and uses data and principles to complete a problem or task with a minimum of direction.	Use Compute Solve Demonstrate Apply Construct	The student will write an instructional objective for each level of Bloom's taxonomy.

There are numerous model to the study of entrepreneurial intention, each addressing different facets of entrepreneurial activity, for instance Ajzen's (1991) Theory of Planned Behaviour (TPB) and Shapero's Model of Entrepreneurial Event (SEE) (Sizong Wu and Lingfei Wu, 2008). In order to measure the students' tendency towards entrepreneurship in Malaysian polytechnics, this study will use the standard questionnaire developed by Caird (2008; 1988) - the General Enterprising Tendency version 2 (GETv2) Test (see Chapter 7).

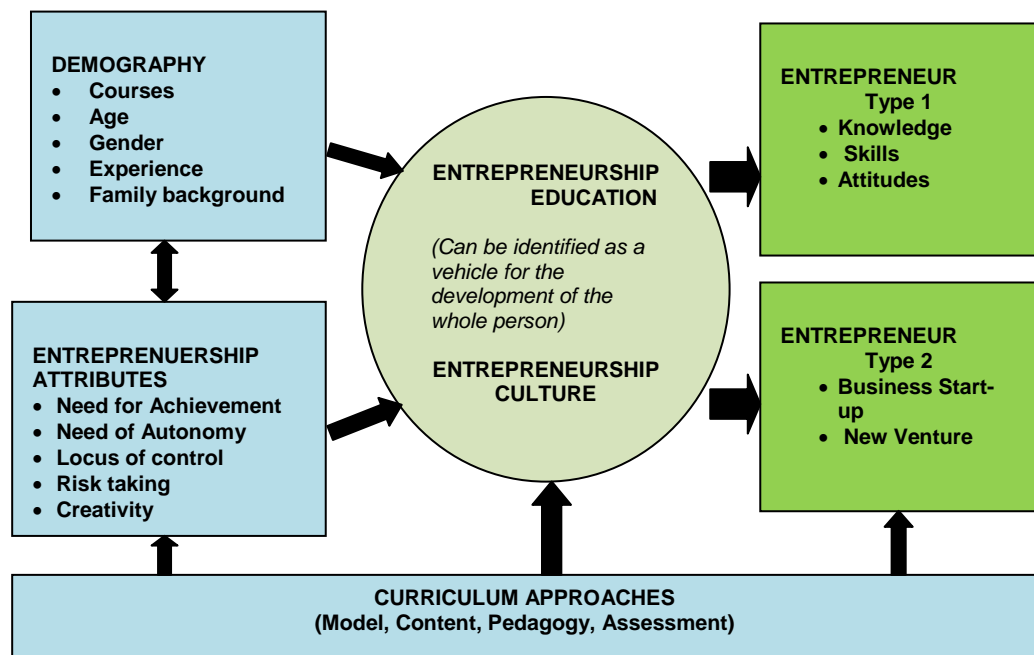
3.6.3 The Rubric Analysis

Rubric Assessment National Standard of Practice for Entrepreneurship Education's are referred to the on line which easily assessed through the internet. Appendix 5 shows the standard and this model were analysed in the discussion chapter in paragraph 9.4.

3.7 Proposed Theoretical Framework

In order to encourage entrepreneurial behavior some key attributes need to be strengthened through the curriculum in polytechnics. The discussion above might be summarized to develop a research framework as design shown in Figure 3.3 below:

Figure 3.3: Conceptual framework for analysis on entrepreneurship education and training at polytechnics, Ministry of Higher Education, Malaysia



Source: Synthesised from Gibb 1993; Kirby, 2003; Cotton, 1991

The theoretical concept and framework in Figure 3.3 above is based on the literature review in Chapters Two and Three, which comprises the entrepreneurship characteristics: need for achievement, need of autonomy, locus of control, risk taking, and creativity. The students' demography includes their courses, age, gender, working experience, and family background; and considers the factors that influence their tendency to get involved in entrepreneurship. The entrepreneurship education includes the model, curriculum content, pedagogy, assessment, and becomes a vehicle to develop students with entrepreneurial attributes. The entire factors will be blended in the context of the Malaysian mould by the educational process in parallel with the Malaysian culture. Yet, at the end of the process, the expected outcomes are the ability to

encourage developments in human capital, whether they be entrepreneurs or at least embedded with the entrepreneurship knowledge, skills and attitudes.

3.8 Conclusion

This chapter has shown how a range of curriculum theories can be used for descriptive and exploratory purposes in the study. This chapter outlined theories and models from the curriculum field that will be interpreted in data analysis and shows how existing theoretical frameworks can be reconciled and complementary to give a direction to the study. The discussion also covered the entrepreneurship curriculum content, objective, assessment and monitoring. Finally, this chapter has explained the pedagogy that should be used in the teaching and learning of entrepreneurship. The associated models such as the Bloom Taxonomy, Process Model and Kolb Model indeed strengthen the process of building-up the “foundation” of the entrepreneurship and curriculum study.

CHAPTER 4

RESEARCH DESIGN AND APPROACH

“If you don't know where you are going, any road will take you there”

Lewis Carroll (1832-1898)

4.1 Introduction

In this thesis, the term ‘methodology’ refers to the paradigm, method or strategies employed to gather data in order to answer the research question. A research method is simply a technique for collecting data. It can involve specific instruments, such as: self-completed questionnaires, a structured interview schedule, or observation, whereby the researcher listens to and watches participants (Bryman and Bell, 2007: p.40). It might refer to the tools used for analysing data. These may be statistical techniques to extract patterns from unstructured data, or sampling. Methodology is the study of the methods that are employed (Bryman, 2008). Entrepreneurship research methodology emerged as a topic along with financing, growth and the process of entrepreneurship in 1986 (Sexton and Landstrom, 2000: p.437). However, the entrepreneurship paradigm has yet to develop distinctive methods and theories of its own (Bygrave, 1989: p.7).

This chapter will discuss in detail the rationale behind the study. This chapter is divided into two parts; the qualitative study and The General Enterprising Tendency version 2 Test. The research framework includes approach, strategy and data collection methods. This methodology and approach will be a guideline in the organization of data collection, the analysis process and the findings of the study. Accordingly, the discussion focuses on data analysis using NVivo and thematic analysis tables in Chapter 5.

As mentioned in Chapter 1, the research will explore the effectiveness of entrepreneurship education with a special focus on students’ attitudes to entrepreneurship. Firstly, the aim of the study is to identify empirically the extent to which current entrepreneurship education influences polytechnic students’ towards developing entrepreneurial tendencies. Secondly, is to investigate how entrepreneurship education is nurtured/ cultured in polytechnic systems. Lastly, the study investigates the

effectiveness of pedagogical methods in polytechnics offering courses on entrepreneurship.

4.2 Research Philosophy Consideration

There are two core research paradigms or philosophies. Although there is considerable blurring between them, the two paradigms can be labelled positivist and phenomenological (Hussey and Hussey, 1997; Collis and Hussey, 2003; Collis and Hussey, 2009). According to Patton (1990: p.68) phenomenology is sometimes viewed as a paradigm, sometimes as a philosophy or perspective, and sometimes as a qualitative method. This study is focus on “interpretivism” or “phenomenological” in paradigm. This means that the researcher is directly involved with the situation, or is part of the research world. Saunders *et al.*, (2003) stated that in this sense, people not only interact with their environment, they also seek to make sense of it through their interpretation of events and the meanings that they draw from this. Creswell (1994) draws on numerous authors to show the varying assumptions of the two main paradigms, as shown in the Table 4.1 below (Collis and Hussey, 2009: p.58).

Table 4.1 Assumption of the main paradigm

Philosophical assumption	Interpretivism/ phenomenological
Ontological assumption (the nature of reality)	Reality is subjective and multiple as seen by the participants
Epistemological assumption (what constitutes valid knowledge)	Researcher interacts with that being researched
Axiological assumption (the role of the values)	Researcher acknowledges that research is value-laden and biases are present
Rhetorical assumption (the language of research)	Researcher writes in an informal style, uses a personal voice, and accepts qualitative terms and limited definitions
Methodological assumption	Process is an inductive study of mutual simultaneous shaping of factors with an emerging design (categories are identified during process) Research is context bound Pattern and/or theories are developed for understanding Findings are accurate and reliable through verification

Source: Adapted from Creswell (1994; 1998)

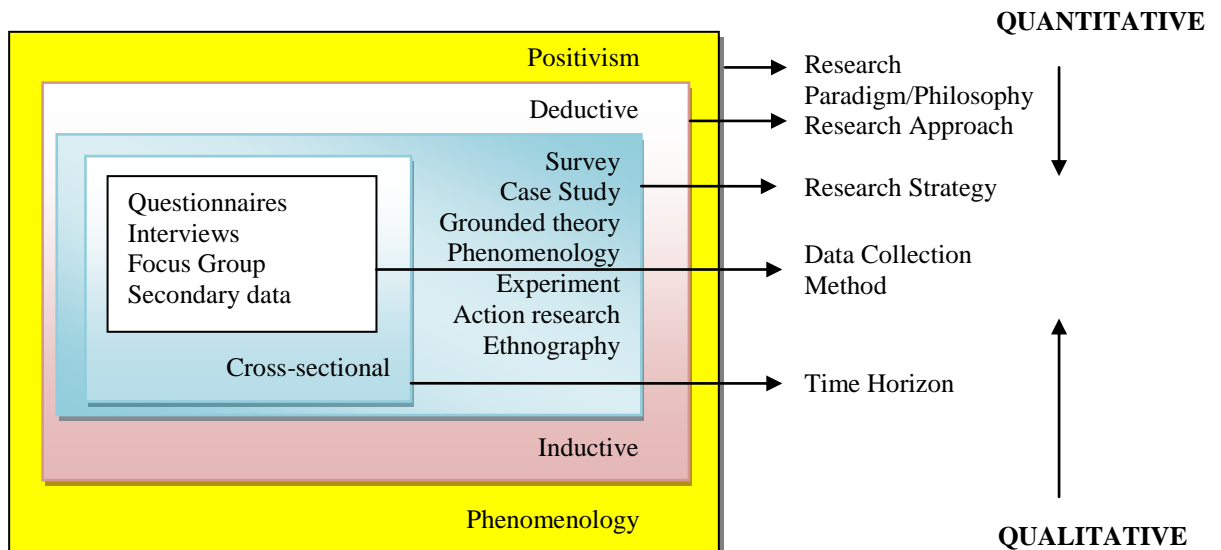
Table 4.1 illustrates the stance of the phenomenological paradigm that is involved in my study. The different views are based on the nature of reality (ontology), how we gain knowledge of what we know (epistemology), the role values play in research (axiology), the process of research (methodology), and the language of research (rhetoric) (Guba and Lincoln, 2000; Creswell, 2003). Most researchers usually use ontology, epistemology and methodology to develop their research methodology. For example, the ontology of this study is based on the belief that the researcher is a part of the institution that is being researched; in this case, the Malaysian Polytechnic. The researcher also had the opportunity to participate, by sharing the input and reviewing the interpretations and analysis during the data analysis and writing up process. Collis and Hussey (2003) stated that the nature of reality is subjective and multiple as seen by participants in a study.

From an epistemological perspective this is an interpretive study. Schwandt (2000) highlighted three epistemological stances in qualitative inquiry. These are: Interpretivism, hermeneutics, and social constructivism. Strauss and Corbin (1990) defined interpretive research as any type of research where the findings are not derived from statistical analysis of quantitative data. The interpretivist paradigm allowed for a reciprocal relationship between the researcher and the researched, thus supporting the dynamic of genuine participation toward the continuous understanding of deeper meanings (Schwandt, 2000). Therefore, the researcher will interact closely with the subjects of the study, including students, lecturers, policy makers and other stakeholders. In other words, the researcher (in certain circumstances) becomes part of the entrepreneurial study of the Polytechnic. This is in line with Creswell (1994), in that the researcher interacts with those being researched because it is impossible to separate what exists in the social world from researcher's sentiments. In addition, interpretivism attempts to minimise the distance between the researcher and that which is researched (Collis and Hussey, 2009: p.59).

4.3 Research Framework

The following discussion will employ the framework shown in Figure 4.1 to present an in-depth explanation of the research process in this study. Essentially, framework, theory and method are the foundations of research. As mentioned above, two views about the research process dominate the literature: positivism and phenomenology, as illustrated in the figure below:

Figure 4.1 A Holistic View of the Research Process



Source: Adapted from Saunders *et al.* (2000), Collin and Hussey (2003), Denzin and Lincoln (2000) and Patton (2002)

As illustrates in Figure 4.1 above, there are five elements associated with the research paradigm: research approaches; research paradigm/philosophy, research strategies; time horizons; and data collection methods. Creswell and Clark (2007) noted four worldviews of the paradigm. These are post-positivism, constructivism, advocacy and pragmatism. Collis and Hussey (2009) conclude the term “paradigm” is used inconsistently in the literature because it has different meanings for different people in various disciplines. It has other meanings as one moves around the world and its definition has altered over time. For the purpose of the study, the framework above will shape the discussion as shown below.

4.3.1 Research Paradigm/Philosophy

As mentioned in 4.2, this study originates via phenomenology or qualitative methods in paradigm (See figure 4.1). However, some researchers prefer to use the term interpretivist rather than phenomenological because it suggests a broader philosophical perspective and prevents confusion with a methodology known as phenomenology (Collis and Hussey, 2003; Denzin and Lincoln, 2000; Creswell, 1998). It is a strategy of inquiry in which the researcher identifies the essence of human experience regarding a certain phenomenon as described by participants (Creswell, 2009, p.13). The key is gaining the subjective experience of the subject. Sometimes one must put oneself in the place of the subject (Gray, 2009: p.22-23). In other words, phenomenology seeks to understand the world from the participant's point of view (p.171). In this context, this qualitative study enabled this researcher to explore the situation as it happened in the polytechnics in a deep and meaningful manner. In addition, the researcher's experience in this institution will assist in investigating the subject from the interpretive paradigm. In addition, from the philosophical stance, this study embraced a qualitative and quantitative to explore and explain the issue regarding entrepreneurship education in Malaysian polytechnic. This is in line with the pragmatism worldview, which typically associated with mixed method research (Creswell and Clark, 2007).

4.3.2 Research Approach

Gray (2009) perceives five approaches in qualitative study: symbolic interactionism, phenomenology, realism, hermeneutics and naturalistic inquiry. Miles and Huberman (1994) design a framework of qualitative research which stated:

- It should be conducted through intense contact within a real life setting
- The researcher's role is to gain a holistic or integrated overview of the study, including the perceptions of participants
- Themes that emerge from the data are often reviewed with informants for verification
- The main focus of research is to understand the ways in which people act and account for their actions

During the fieldwork stage, the researcher spent time in setting up the study – a programme such as an entrepreneurship module and activities, an organisation, a community or wherever beneficial situations to a study occur, and where people can be interviewed, and documents analysed (Patton, 2002: p.4). The inductive approach means the themes identified are strongly linked to the data themselves (Patton, 1990). In addition, most qualitative studies tend to depend on assimilation of data in the form of words (for example interview transcripts), which are flexible in terms of the variety of data type applicable (Gray, 2009). In term of research approach this study is combining the quantitative part by using General Enterprising Tendency version 2 (GETv2) Test and qualitative approach. Both quantitative and qualitative research techniques are needed to gain a more complete understanding of phenomena (Johnson and Onwuegbuzie, 2004; Newman and Benz, 1998). Lastly, combining quantitative and qualitative research helps to develop a conceptual framework, to validate quantitative findings by referring to information extracted from the qualitative phase of the study and to constructs indexes from qualitative data can be used to analysed quantitative data (Madey, 1982). Greene, Caracelli, and Graham (1989) outlined five broad purposes of mixed methodological studies: triangulation, complementary, development, initiation and expansion.

4.3.3 Triangulation Method Approach

This study utilized the triangulation method. The concept of triangulation was introduced in social sciences by Webb *et al.*, (1966) and used by Denzin (1978). Triangulation is generally defined by Denzin (1970: p.297) as “the combination of methodologies in the study of the same phenomenon”. Its primary aims are to validate research findings across method to present a more complete account of social reality, and to reduce bias and validity threats (Bryman, 1988; Webb *et al.*, 1966). In the literature, it stated that Denzin (1978), Patton (1990) and Easterby Smith, Thorpe and Lowe (1991) identify four basic types of triangulation that contribute to enhancing the validity of qualitative analysis: theoretical triangulation, data triangulation, method triangulation and investigator or analyst triangulation.

In the study, data triangulation approach was used from different sources in investigating particular phenomena. The questionnaire was employed to explore the student tendency towards entrepreneurship in Malaysian polytechnics. Webb *et al.*

(1966) argued that researchers should employ more than one instrument to measure variables. Hence, as this is an exploratory snapshot, the interview and focus groups were designed to focus on the key areas of entrepreneurship education including content, assessment, and teaching method. In triangulation, a researcher deploys “different methods” such as interviews, census data, and documents to validate data (Richardson, 2000: p.934). Moreover, triangulation allows research findings to be checked against other data and perspectives. This would ultimately reduce any bias in the data. Triangulation refers to the process of checking on the validity of a set of findings from one method by comparing it with findings from another method (Bryman, 2008; Kirkwood and Campbell-Hunt, 2007). Clearly, the theory legitimates the use of interview and focus group as exploratory in means of data triangulation.

In conclusion, the findings of the GETv2 Test will be reported first and then the qualitative study will explore these in greater detail. The results from the General Enterprising Tendency version 2 Test became a foundation and indicator for the qualitative study which was then undertaken to explore the reasons “why” respondents did not exhibit enterprising tendencies. The qualitative study was conducted through interview and focus group discussions. In addition, observation and secondary data were important inputs to support the data analysis in the study. The actual methods of data collection are elaborated in Chapter 5.

4.3.4 Research Strategy

Strategies of enquiry connect researchers to specific approaches and methods for collecting and analysing empirical materials (Denzin and Lincoln, 2000: p.371). Yin (2003) identifies five different research strategies: experiment, survey, archival analysis, history and case study. Hill and McGowan (1999) added a few research strategies including observation, participant observation, ethnographic interviewing and archival data (where available), in-depth interviewing, grounded theory approaches and the case study. The appropriate strategies identified in this study are “survey”, “case study” and “grounded theory.”

4.3.4.1 Survey

A “survey” is positivistic and deductive methodology whereby a sample of subjects is drawn from a population (Hussey and Hussey, 1997; Saunders *et al.*, 2003). However, for Punch the word “survey” has a different meaning which is sometimes used to describe any research which collects data (quantitative or qualitative) from a sample of people (Punch, 1998: p.76). Survey questions are usually standardised, so that everybody is asked exactly the same questions in the same format (Buckingham and Saunders, 2004: p.13). According to Saunders *et al.* (2003) the questionnaire however, is not the only data collection device which belongs to the survey category, whereas structured observation and structured interviews also fall into this category.

4.3.4.2 Case study

In this study, five polytechnics are chosen to explore the implementation of entrepreneurship education as a case study. A case study is often described as exploratory research, used in areas where there are few theories or a deficient body of knowledge (Collis and Hussey, 2003). It is useful to clarify the understanding of a problem, if you are unsure of the precise nature of the problem for example (Saunders *et al.*, 2009). Yin (1994) identifies the following characteristics of case study research: the research aims not only to explore certain phenomena, but to understand them within a particular context; the research does not commence with a set of questions and notions about the limits within which the study will take place, and the research uses multiple methods for collecting data. In addition, case studies typically combine data collection methods such as archives, interviews, questionnaires and observations (Eisenhardt, 1989: p.534).

4.3.4.3 Grounded theory

In essence, grounded theory was introduced by Glaser and Strauss (1967), and was updated by Strauss and Corbin (1990). Grounded theory is a qualitative research method that offers a comprehensive and systematic set of procedures to develop inductive theory (Strauss & Corbin, 1990: p.24). “Grounded” means that the theory will be generated on the basis of data. “Theory” means that the objective of collecting and

analysing the research data is to generate theory. The essential idea in grounded theory is that theory will be developed inductively from data (Punch, 1998: p.163).

It is a general methodology for developing theory that is grounded in data systematically gathered and analysed (Strauss & Corbin, 1994: p.273). Thus, the theory is generated by the observations rather than being decided before the study (Collis and Hussey, 2003: p.73). Glaser (1992) claimed that grounded theory is often used where a totally fresh approach to the existing theory is warranted because existing theories do not adequately explain a phenomenon or when existing theories on the phenomenon are minimal. In line with grounded theory, data collection is usually but not exclusively by interviews (Allan, 2003) which the other strategies will embark on together. The purpose of grounded theory is to build theory that is faithful to, and illuminates, the area under investigation (Hussey and Collis, 2003; Patton, 2002). Rather than to confirm and disconfirm existing theories, the aim of phenomenological research is to develop “bottom-up” interpretive theories that are inextricably “grounded” in the lived-world (Cope, 2005: p.171). Regarding this, the study employed a grounded theory for the purpose of developing a model or theory based on the “findings emerged” in the study.

4.4 Data Analysis

The data obtained from interviews and focus group were analysed via thematic analysis. This analysis method was triangulated with the computer software namely, NVivo. The detail of the analysis is shown in Chapter 6.

4.4.1 Computer Assisted Qualitative Data Analysis Software (CAQDAS): NVivo

To aid analysis some appropriate CAQDAS software, NVivo, was utilized. Most qualitative researchers now work with computers, but relatively few use software designed for qualitative analysis (Richards and Richards, 1998; Hamilton, 1999; Bryman and Bell, 2003). Common software used includes Ethnograph, NUD*IST, NVivo, winMax and ATLAS/ti (Bryman and Bell, 2003: p.446). In line with the interpretivist approach, the type of CAQDAS to be used in this study is NVivo. The software provides a guide through many options and possibilities in qualitative data analysis, from creating and editing data (primary or secondary), to its exploration, organisation and linking, as well as the searching, modelling and theorising of an

emerging analysis (Hamilton, 1999).

In this study, the interview data from the individuals and groups were analysed through the NVivo 8 software package to inductively generate definitional categories and explore aspects of their interrelationship (Johnson *et al.*, 2007). However, Gray (2009) argues that CAQDAS do not generate codes, and the researcher has to interpret the data by themselves. So the process is iterative, with the software helping to refine the interpretations which are then used to re-interpret the data and in turn refine the overarching themes.

4.4.2 The Thematic Analysis Process

Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within the data (Braun and Clark, 2006). Under the thematic analysis, the frequency of the occurrence of certain incidents, words, phrases denoted as a theme (Bryman and Bell, 2007). Interestingly, thematic analysis is widely used, but there is no clear agreement regarding what thematic analysis is and how you go about doing it (see Attride-Stirling, 2001; Boyatzis, 1998; Tuckett, 2005, for other examples). Braun and Clark (2006) argue that a lot of analysis is essentially thematic, it is either claimed as something else such as discourse analysis (DA), or even content analysis (eg, Meehan *et al.*, 2000, Patton, 2002) or conversation analysis. Attride-Stirling (2001) listed three classes of themes as described below:

- Basic Themes –the lowest-order theme that is derived from the text
- Organising themes – organising the basic themes into clusters or similar issues
- Global theme –super-ordinate themes that encompass the principle metaphors in the data as a whole.

To analysis the data gathered in the field work, the framework suggested by Attride-Stirling (2001) above wase used. In addition, the interview transcriptions were scrutinised line by line and informants' interpretations were coded to generate initial descriptive categories that shared particular distinguishing characteristics (Strauss and Corbin, 1990). These iterative processes inevitably entail some “data reduction” since they involve “selecting, focusing, simplifying, abstracting and transforming the raw data” (Miles and Huberman, 1994: p.10).

4.5 Reliability and Validity

4.5.1 Reliability

Reliability is a central concept in measurement, and it basically means consistency (Punch, 1998: p.99) and whether the results of the study are repeatable (Bryman and Bell, 2003: p.33). It means the same answer should be obtained on measurement with the same measurement method, assuming the situation has not changed (Jankowicz, 2005: p.112). In qualitative research, reliability refers to the extent that different researchers, given exposure to the same situation, would reach the same conclusion (Anderson, 1998: p.256). In addition, reliability is particularly an issue in connection with quantitative research (Bryman and Bell, 2003), it is also considered with qualitative study, in tandem, to produce a robust research.

4.5.2 Validity

Validity is the extent to which the research findings accurately represent what is really happening in the situation (Collis and Hussey, 2003: p.58). It refers to the establishment of evidence that the measurement is actually measuring the intended construct (Chandler and Lyon, 2001: p.106). This is often established by seeing whether the information is consistent with other measurement methods or with what is known and recorded already (Jankowicz, 2005: p.111). According to Janesick (2000: p.393) validity in the quantitative arena has a set of technical micro definitions, and the reader is most likely well aware of those. Meanwhile, in qualitative research, validity has to do with description and explanation and whether or not the explanation fits the description.

In qualitative research, there is more of a focus on validity to determine whether the account provided by the researcher and participants is accurate, can be trusted, and is credible (Lincoln and Guba, 1985). Reliability plays a minor role in qualitative research and relates primarily to the reliability of multiple coders on a team to reach agreement on codes for passage in text. Creswell and Clark (2007: p.134) agreed that qualitative validation is important to establish, but critiques that there are so many commentaries and types of qualitative validity it is difficult to know which approach to adopt. In terms

of the reliability and validity of the findings, the transcripts were sent back to the respondents as discussed in Chapter 6.

4.6 General Enterprising Tendency version 2 Test (GETv2 Test)

This study will be based on the questionnaire “General Enterprising Tendency version 2 (GETv2) Test” to measure the Polytechnic students’ tendency towards entrepreneurship. The results from the test will be used as an “indication” for the in-depth investigation in the qualitative study. It will explore the causal relationship of “why” and “how” this phenomenon occurs in the polytechnic system. Hence, the first phase of the study was undertaken to understand polytechnic students’ tendency towards entrepreneurship.

4.6.1 A Brief Description of the GETv2 Test

The main purpose of the survey is to obtain information from, or about, a defined set of people, or population (Easterby-Smith, 2002). Questionnaires are measuring instruments that ask individuals to respond to a set of questions (Schwab, 1999). The outcomes of the survey were used to indicate how far polytechnic students have entrepreneurial tendencies. This is in line with Pratt (1980: p.85) who suggested the non-expert might consider purchasing a ready-made questionnaire for needs assessments.

The original version of General Enterprising Tendency (GET) Test was developed and tested in Durham University Business School, 1998 by Dr S. Caird and Mr Cliff Johnson (Caird, 2008a). A revised version of the GETv2 test was developed and published in a book of entrepreneurship and innovation by Professor Mazzarol, University of Western Australia who has found it to be one of the best tests available (p.4). Although the definition of entrepreneurship was discussed deeply in the literature review chapter, this chapter defines the enterprising person as someone with a tendency to start up a business and manage the projects (Caird, 2008). Previously, Caird (1988) defines an enterprising tendency as “the extent to which an individual has a tendency to set up and run projects” (Cromie & O’Donoghue, 1992). The full set of GETv2 Test questionnaires are portrayed in Appendix 2.

4.6.2 Reliability and Validity

In quantitative research, there are two contexts in which to think about validity and reliability. The first pertains to scores from past uses of the instruments and whether the scores are valid and reliable. The second relates to an assessment of the validity and reliability of data collected in the study the researcher is currently doing (Creswell and Clark, 2007: p.133).

The GET Test was selected and had been validated with a number of different groups of persons (Cairds, 1988). The instrument was also tested for its validity and reliability in Malaysia (Hj Din, 1992). The GET test has been used for educational purposes with students, school pupils and participants on enterprise training courses (Caird, 2008a). In recent years it has generated interest amongst academics and researchers working in higher educational institutions and universities (Caird, 2008b). Cromie and O'Donaghue, (1992) conclude that the test instruments seem to have some potential for assisting top quality research in this area. However, further work to assess the discriminating and predictive validity of the instruments is needed (Cromie and O'Donaghue, 1992). In response to the arguments above, Caird, (2008b) acknowledge that there was no further work to establish reliability and validity and the GET test was mainly used in education, to stimulate discussion and personal reflection concerning enterprise, these may cause of lack of funding. Cromie and Callaghan (1997) concluded that research reveals that the GET test is a suitable instrument for assessing enterprising tendencies. The GET test is comprehensive, accessible, easy to administer and score and, although additional work is needed to verify its psychometric properties, some studies have found that the GET test has criterion and convergent validity and good internal consistency (Cromie, 2000: p.22).

4.6.3 Proposition

The study was carried out on the basis of the following propositions:

1. All students in the polytechnic are assumed to be at the same level based on the requirement for enrolment to the polytechnics.

2. The analysis is based on guidelines provided by the Caird (2008b) model. Analysis is based on mean which is normally used in the previous study.
3. A statistical software package, SPSS 16, was considered appropriate for data analysis. Scores of each variable were calculated by averaging the score from each item in respective variables. This analysis is enabled analysis of the data collected from the 506 students and 100 lecturers.
4. The lecturers were also considered to be at the same standard of teaching and learning skills. Students and lecturers were analysed from the GETv2 Test only. Only five attributes were involved in the study, as mentioned in the framework and GETv2 theory.
5. The term entrepreneurship tendency and entrepreneurship characteristics were interchangeably used in the study

4.7 Conclusion

The method of the study is primarily qualitative which is most of the data were collected and analysed based on the inputs from the interview, focus group and the analysis of the documents. Questionnaires were used as indication, due to the large number of respondents (students) in research. Both methods triangulated to address the research questions concurrently. Hence, the outputs from both methods were utilised to contribute to new developments in entrepreneurship education in Malaysian polytechnics. Ideas were developed and shaped through the writing and presentation of academic papers to various conferences including the British Academy of Management (Ismail, 2007; 2008; 2009a; 2009b; 2009c)

CHAPTER 5

DATA COLLECTION PROCESS AND ANALYSIS

5.1 Introduction

Data analysis is at the heart of building theory from case studies, but it is both the most difficult and the least codified part of the process (Eisenhardt, 1989) and there is no standard format for such analysis (p.540). Chapter 6 presents the actual data analysis process based on data obtained from the field work regarding interviews and focus groups discussion and document survey. The first part of this section will focus on the data collection process; followed by the data analysis methods in the next section. Accordingly, the General Enterprising Tendency Test process will be explained.

As mentioned earlier in the research methodology, the qualitative study becomes a primary method in this interpretative research. It is to probe deeply the actual situation on entrepreneurship education in Malaysian polytechnics. The second part of the study involves the data analysis process where the recorded interviews were transcribed by “verbatim” technique to produce a transcript. From transcript, the texts were analysed by thematic analysis to develop a theme. The data were processed and ordered by the assistant of software, NVivo. Then, the process of coding was run concurrently by creating a new approach by combination of both NVivo and thematic analysis. Lastly, it was ended by report writing. In general, the process of data collection is shown in Figure 5.1 below.

Figure 5.1 Outline of the Entire Data Collection Process

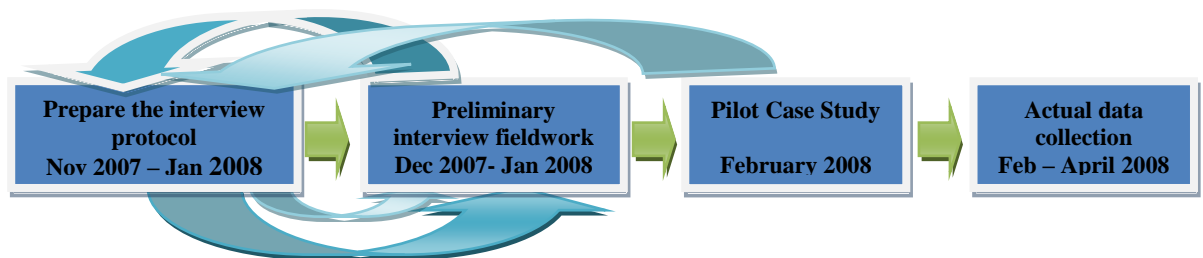


Figure 5.1 above illustrates the process of data collection in the study. It begins on November 2007 to prepare the interview protocol until the actual data collection process was completed in April 2008. The six month period, indeed, was a long journey in the PhD work.

5.2 Data Collection Method

The backbone of the research methodology is the process of how the data are collected during the period of study. In this study, data were collected in three phases, as depicted in Table 5.1 below.

Table 5.1 Methods of Data Collection

Methods	Respondents	Descriptions
Phase I Question- airs	Lecturer (113) students (60) Students (506)	Lecturer and students from five polytechnics in the study Pilot test Actual
Phase 2 Interview	To management (10) Industry (3- development industry) Entrepreneurship experts (11) Students (6)	This group included Directors, Heads of department, and those responsible for the institutions. This group included those involve in developing a curriculum and who employed polytechnic students in their company This group included lecturers from the university, and those involve directly in entrepreneurship. Students in their final semester (either semester 4 or 6).
Phase III Focus Group	Lecturers, students (6 focus groups/ 40 respondents)	Zone A –Shah Alam Polytechnic (PSA) - Centre Zone; Zone A-Ungku Omar Polytechnic (PUO) – Centre Zone; Zone B - Sultan Abdul Halim M. Shah Polytechnic (MAS) - Northern Zone Zone C - Port Dickson Polytechnic (PPD) - Southern Zone Zone D –Kota Bharu Polytechnic (PKB) - East Coast Zone Zone E- Kota Kinabalu Polytechnic (PKK) – Borneo Zone

Note: Respondents' details are shown in Appendix 6

The selection of the respondents was based on purposive sampling. Respondents were chosen on the basis of the researcher's judgement (Cohen *et al.*, 2007) about who would have in-depth knowledge about these particular issues (p.115). Subjects selected on the basis of their expertise in the subject investigated (Sekaran and Bougie, 2009: p.280)

5.2.1 Semi-structured Interview

Semi-structured interviews were used in the second phase of data collection. The use of interview within the field of entrepreneurship and small business is still in its infancy (Cope, 2005). Interviews are used to obtain a first-person description of some specified domain of experience (p.176). Zoltan and Laszlo (2007) listed three reasons for choosing the interview method. Firstly, to allow a free range of responses from the interviewees within a developed structure; secondly, to allow the responses to emerge from the subjects themselves in their own words; and lastly because of our own bias towards interviews as a “rich” source of data. However, Bryman and Cassell (2006) believe that the most strong reason the interview is used is because the questionnaire is not able to answer all aspects of the research question. They added that interviews typically take place because the researcher has uncovered an area where practice and opinion have not been articulated in a systematic way. In addition, the adjustments can be made to data collection instruments, such as the addition of questions to an interview protocol (Eisenhardt, 1989).

In this study, the method of interviews is semi-structured to extract personal opinions concerning entrepreneurship. Interviews were conducted with the respondents as stated in Table 5.1 above. The table above shows 30 individuals from four stakeholder groups who were identified as having a significant interest in, and influence upon, various aspects of the conduct, evaluation and dissemination of entrepreneurship education. The interview questions were developed based on the quantitative part of the study and literature review. The rationale for using this method is to gather information from the top management level. This is in line with Thompson *et al.*, (1989) who stated that the ideal interview format is to use short and clear questions to provide an opening and allow lengthier and more detailed descriptions from the respondents. Respondents were asked about their practices, their views about practices, and their knowledge (Bryman and Cassell, 2006). In brief, the questions covered the respondents’ views regarding the implementation of entrepreneurship education in the higher education particularly in polytechnics. Appendix 1 provides further details of interview questions.

5.2.2 Focus Group

As a means of qualitative data collection, individual interviews are not sufficient to study a group process. Focus groups can help here (Morgan 1998; Steward and Shamdasani, 1990). Essentially, a focus group is an interview style designed for a small group (Berg, 1998: p.100). Focus groups are group discussions exploring a specific set of issues (Barbour and Kitzinger, 1999: p.4). This is a form of interview in which data arise from dialogue and general discussion among participants, rather than from a dialogue between the researcher as investigator exploring the story with a single person as respondent (Jankowicz, 2005: p.281). It uses both interviewing and observation (Collis and Hussey, 2003: p.167) and offers a good opportunity to observe the processes by which people interact, and hence to infer something of the culture and climate of the organisation, as well as providing data about the content of people's views on the issues which are being explored (p.282).

A focus group is typically composed of seven to ten participants who are selected because they have certain characteristics (Krueger, 1994: p.6). The size of group for most non-commercial topics is six to eight participants according to Krueger and Casey (2000: p.73) and Morgan (1988: p.43); between eight and twelve according to Barbour and Kitzinger (1999: p.8) and involves more than one, usually at least four interviewees according to Bryman and Bell (2003: p.368). The discussion in groups of more than eight is difficult to manage (Blackburn and Stokes, 2000) especially for complex topics (Krueger and Casey, 2000: p.73). Duration of the group is usually fixed at one to two hours (Morgan, 1988: p.42; Blackburn and Stokes, 2000). In general, the goal is to do only as many groups as are required to provide an adequate answer to the research question, because there are few economies of scale to doing many groups (Morgan, 1988: p.43).

Theoretically, there is a good deal of variation in the numbers of focus groups that are used in any particular study, with the norm being somewhere between twelve and fifteen (Bryman and Bell, 2003: p.372). The numbers ranges from just three or four groups to over fifty and many research projects rely on less than ten groups in total (Barbour and Kitzinger, 1999: p.7). This study was employed on four groups of lecturers and two groups of students to represent the population of lecturers and students in the polytechnics. This group of respondents is perceived as homogenous because

participants have areas of common interest Kruger and Casey (2000: p.71) and the impact is the diversity of opinions and experiences may not be revealed (Gibbs, 1997). In this study, the six groups were chosen to give a good understanding of the research questions. They were selected on the basis of:

- The zone¹³ of each institution
- Number, in that a greater number of groups should increase the complexity of the analysis (Bryman and Bell, 2003: p.372)
- Time constraints, particularly in terms of the transcription of data from tape recorder and translating from Malay to English.
- Number of polytechnic student (enrolments)

The focus group protocol is based on interview question as shown in Appendix 1. The focus groups were used to explore the issues covered by the questionnaire in greater depth and with a different group of stakeholders. In addition it is an effective way to gather information from lecturers and students who represent the majority of the population in the study.

5.2.3 Documentary Survey

A relevant document is a part of the important input on how entrepreneurship education was constructed and implemented in the organisation. Secondary analysis is the analysis of data by a researcher who will probably not have been involved in the collection of those data (Bryman and Bell, 2007: p.326). Marshall and Rossman (1999: p.116) suggest that the review of documents is an unobtrusive method, rich in portraying the values and beliefs of participants in the setting. Official documents classified as “Restricted”, “Secret” or “Confidential” and “For internal use only” were used on the study; such documents included: working papers (Confidential), entrepreneurship curriculum (restricted document), Curriculum Development Manual (unpublished and for internal use only), and Department Bulletin and Department Report., Cohen *et al.* (2007) argue that the reliability and validity of this documentary data are not suitable for the purpose of research, however secondary data can provide useful information and in this study, all information gathered by this method was subsequently triangulated with

¹³ Northern Zone (PPP, MAS, PSP, PKU, PBP,PUO), Centre Zone (PTM, PSA, PSB), Southern Zone (PPD, PMM,PKM, PJB), East Coast Zone (POLISAS,PMA, PKB, PKKT, PDT) and East Malaysia Zone (PKC,PMU, PKK)

the outcomes from the interview and focus group discussions to add to the richness and diversity of data. In this study, the curriculum is viewed as being of particular importance and thus the curriculum document requires some consideration.

5.3 Piloting and Pre-Testing Questions

The purpose of a pilot test or trial run is to increase the reliability, validity and practicability of the questionnaire (Oppenheim, 1992). Saunders *et al.* (2009) stated the purpose of a pilot test is to refine the questionnaire so that respondents will have no problems in recording the data. It also provides interviewers with some experience of using the questions and can infuse them with a greater sense of confidence Bryman and Bell (2007). Seeking for evidence of content validity in this study, the semi-structured interview questions were tested to two polytechnic lecturers. The lecturers chose to perceive whether the questions respond to the research questions or not. Both of them are content experts in entrepreneurship, one being a former of head of department in a Malaysian polytechnic. These respondents are the researcher's colleagues: one from a similar department in Malaysia and the second from a polytechnic. It is better to use friends or family to provide at least some idea of questionnaire face validity (Saunders *et al.*, 2009). Both discussions took around 45 minutes to one hour and were recorded. I acknowledge that their comment and suggestion of the interview session is very useful for the purpose of refining my interview questions.

5.4 Procedures Awareness

The procedures to gather the data included contacting the lecturers in the polytechnics, universities and the agencies involved in the study. In early stage several procedures were taken to ensure this research was well conducted. The initial process was by sending an invitation to the respondents to collaborate on the study. The content of the letter includes the background of the researcher, the purpose of the research, as well as the reciprocal advantages for researcher and respondents. The document also addressed how the researcher was going to handle the confidentiality and anonymity issues. According to Glesne (1999) researchers need to explain in a summary who they are, the type of research they are doing and its purpose, and the possible benefits for the participants. Researchers require permission to collect data from individuals and sites.

This permission can be gained at three levels: from individuals who are in charge of sites; from people providing the data (and their representatives such as parents); and from campus-based institutional review boards (Creswell and Clark, 2007: p.113).

Accordingly, letters of consent from the Ministry of Higher Education were put forward to get an approval to do field work in the institutions. The consent letter took a couple of weeks to be approved by the Ministry of Higher Education. Then, the interview schedule and method, and the area of discussion were sent in advance to give awareness to the respondents upon the presence of researcher. Accordingly, respondents were contacted via e-mail and follow-up by telephone regarding the scheduled appointment. The ethical issue of the study and HUBS regulations have been applied during the process of data collection to ensure the researcher complies with the research ethics. With full support from ministries, departments and institutions, the data was collected as expected in the time scheduled. However, a problem such as missing letters, misunderstanding in communication, commitment of respondent and punctuality to be present at the appointment was anticipated as a challenge in the study.

5.5 Data Analysis Process

The qualitative study entitled “Developing entrepreneurship education: empirical findings from Malaysian polytechnics” imbued a long process of data collection and analysis. Briefly, the whole process of the qualitative analysis is shown in Figure 5.2 below:

Figure 5.2 The Process of Qualitative Data Analysis

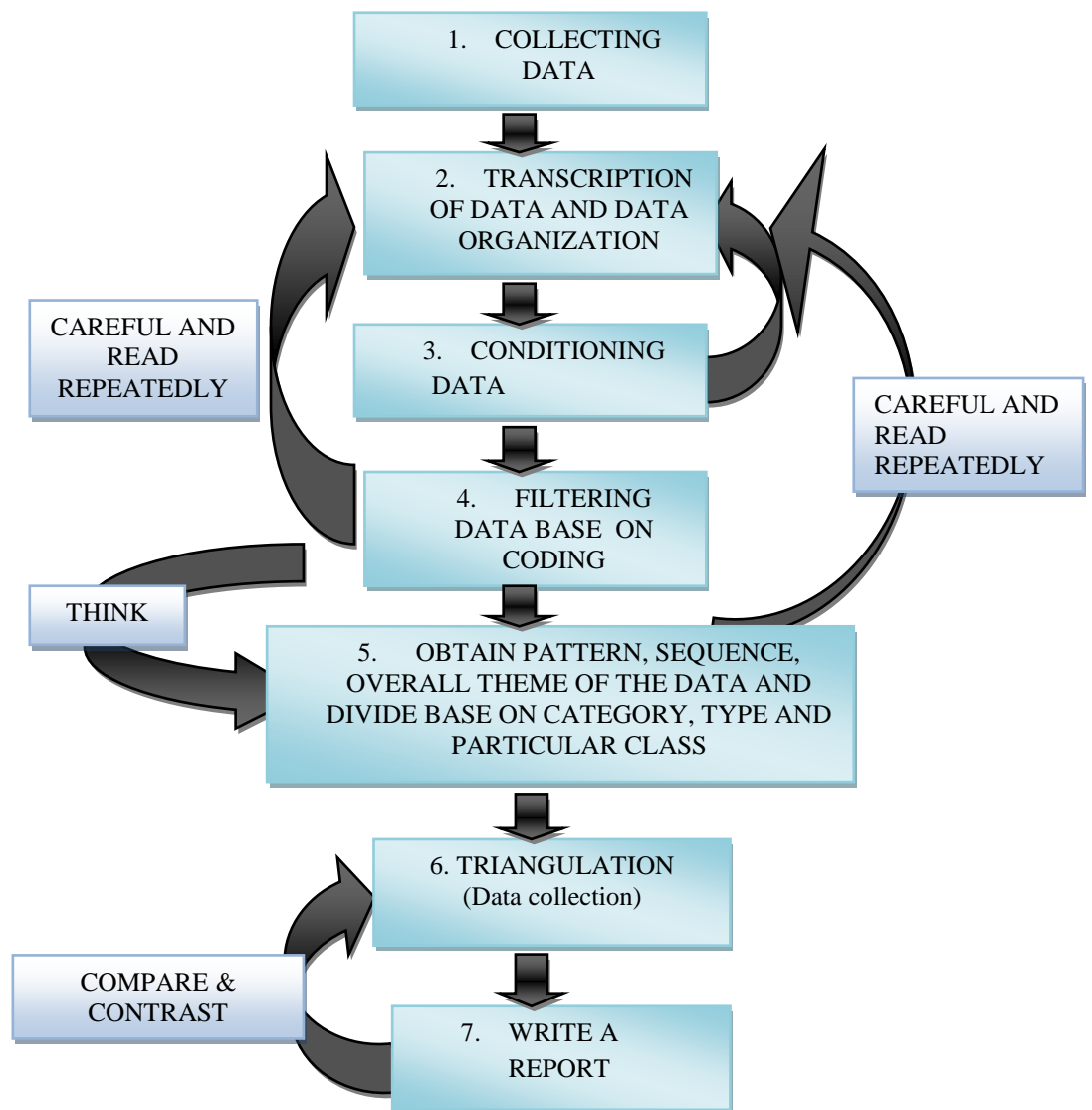


Figure 5.2 above illustrates the process of analysing the data starting from data collection to reporting the findings. The experience of this study shows that it took approximately one year to complete the process of data analysis starting from data collection until writing a report. The discussion below based on the process above, involves:

5.5.1 Stage 1: Organising the Data

The purpose of this section is to report the process of analysing the findings on entrepreneurship education among polytechnic students. It explains how the collated data is analysed to answer the research question. A framework designed by Miles and Huberman was used, starting with data reduction, data display, and drawing and verifying conclusions (Punch, 1998: p.203).

During the interview session, the interview and focus group conversations were recorded and transcribed (verbatim) directly while the memory was still fresh. It seems simple but this stage took longer to be completed and, indeed, it tests our mind, patience and concentration. The 30 minute interviews took approximately 3 hours to transcribe. According to theory, on average, a one hour interview will yield 10-15 single spaced pages of text; 10 two-hour interviews will yields roughly 200 to 300 pages of transcripts (Patton 2002: p. 440). In terms of time consumption, the researcher employed somebody experienced to transcribe the data from the tape recorder as suggested by Gray (2009). However, Patton (2002) argues that there is a different in working off transcripts done by someone else.

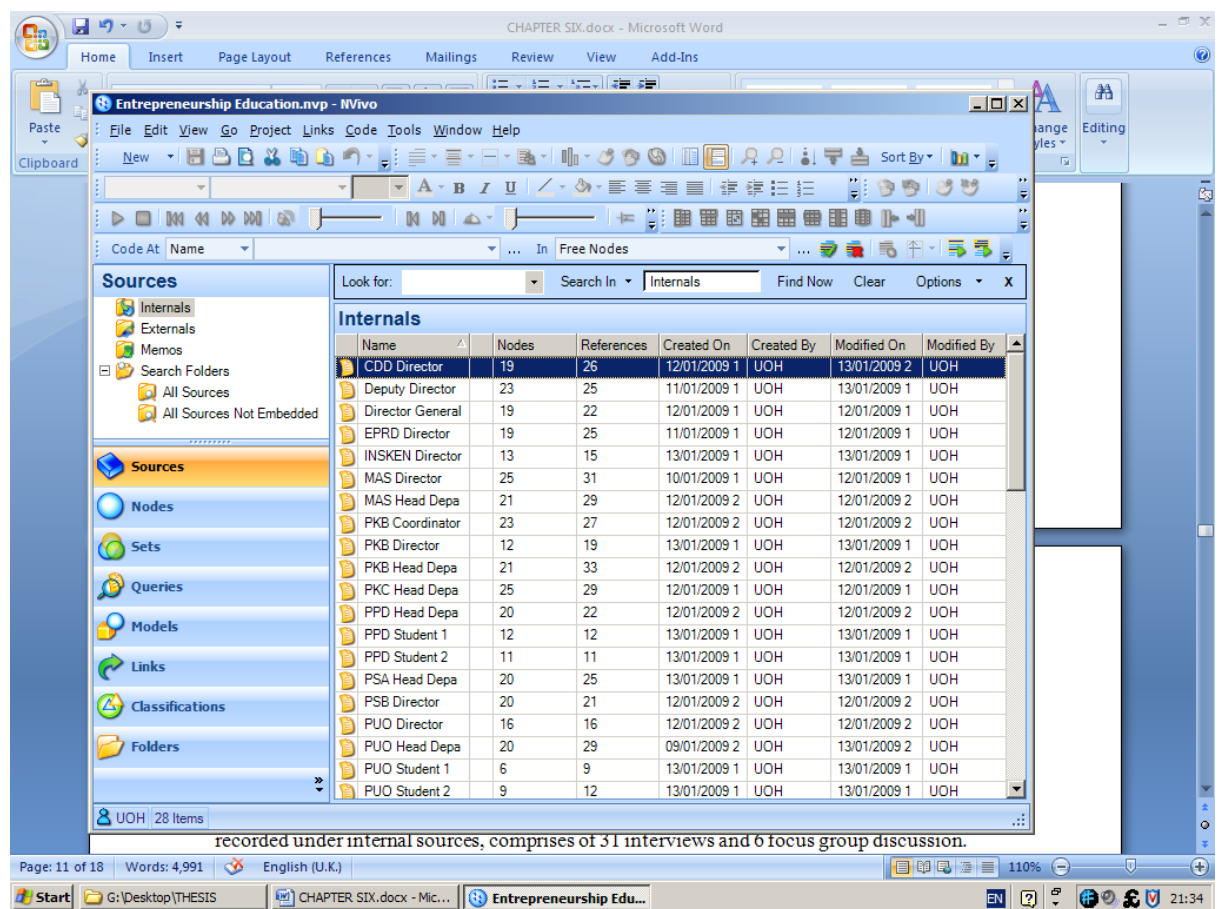
Initially, full transcriptions of interviews were made before the process of coding was undertaken. The interviews conducted in the Malay language were translated into English for the purpose of data analysis. English experts were employed to translate the Malay version transcripts. After transcription, the transcripts were examined to information of no relevance to the research set to one side. Some obvious grammatical errors were amended to ensure the sense was clear. The 30 transcripts took four months to prepare for analysis.

To ensure that no meaning was lost or inadvertently ‘distorted’ language experts from the polytechnics were asked to do a “back-translation”. While surveys in Malaysia can be conducted in English (e.g. Chan and Pearson, 2002; Lee and Koh, 2002) the questionnaire was translated into Malay. Using the “back-translation” techniques, the first translation from the original version in English to Malay was performed while the researcher was in England preparing the field work study. Translation followed by back-translation is claimed to establish translation equivalence (Douglas and Craig, 1983).

In terms of data validation, a comprehensive transcript was sent to respondents to ensure what is reported was expressed by respondents' in the interview. Two respondents gave positive feedback and it was assumed that those who did not replied were satisfied with the script. This is in line with Charmaz (2000) who asked the participants to check for any errors concerning the information, or any misleading information, and modifying the transcriptions by incorporating the content edited by the participants

Interviews and focus group transcripts were then inputted into NVivo 8 for data keeping and processing. Interview data from these individuals were analysed through an iterative process using the NVivo software package to inductively generate definitional categories and explore aspects of their interrelationships (Johnson *et al.*, 2007). The interviews were stored in NVivo as shown in table below.

Figure 5.3 The Interview Transcript in NVivo



The screenshot shows the NVivo 8 interface with a list of internal sources. The table below represents the data shown in the 'Internals' list:

Name	Nodes	References	Created On	Created By	Modified On	Modified By
CDD Director	19	26	12/01/2009 1	UOH	13/01/2009 2	UOH
Deputy Director	23	25	11/01/2009 1	UOH	13/01/2009 1	UOH
Director General	19	22	12/01/2009 1	UOH	12/01/2009 1	UOH
EPRD Director	19	25	11/01/2009 1	UOH	12/01/2009 1	UOH
INSKEN Director	13	15	13/01/2009 1	UOH	13/01/2009 1	UOH
MAS Director	25	31	10/01/2009 1	UOH	12/01/2009 1	UOH
MAS Head Depa	21	29	12/01/2009 2	UOH	12/01/2009 2	UOH
PKB Coordinator	23	27	12/01/2009 2	UOH	12/01/2009 2	UOH
PKB Director	12	19	13/01/2009 1	UOH	13/01/2009 1	UOH
PKB Head Depa	21	33	12/01/2009 2	UOH	12/01/2009 2	UOH
PKC Head Depa	25	29	12/01/2009 1	UOH	12/01/2009 1	UOH
PPD Head Depa	20	22	12/01/2009 2	UOH	12/01/2009 2	UOH
PPD Student 1	12	12	13/01/2009 1	UOH	13/01/2009 1	UOH
PPD Student 2	11	11	13/01/2009 1	UOH	13/01/2009 1	UOH
PSA Head Depa	20	25	13/01/2009 1	UOH	13/01/2009 1	UOH
PSB Director	20	21	12/01/2009 2	UOH	12/01/2009 2	UOH
PUO Director	16	16	12/01/2009 2	UOH	12/01/2009 2	UOH
PUO Head Depa	20	29	09/01/2009 2	UOH	13/01/2009 2	UOH
PUO Student 1	6	9	13/01/2009 1	UOH	13/01/2009 1	UOH
PUO Student 2	9	12	13/01/2009 1	UOH	13/01/2009 1	UOH

recorded under internal sources, comprises of 31 interviews and 6 focus group discussion.

5.5.2 Stage 2: Developing themes

The theme was developed based on content analysis (see Cohen *et al.*, 2007) and NVivo used to organise and manipulate data. Charmaz (2000) started by identifying the possible emergent themes and categories, highlighting the words, phrases or sentences in the transcription that might be pointing to the emergent themes or categories. These themes or categories were identified in a column added to the transcription sheet. Creswell (2009) suggests it might be composed with the names of the codes in one column, a definition of codes in another column and then specific instances (e.g. line numbers) in which the codes are found in the transcripts. In this study a theme emerged from the research question and from the question used in the interview or in the focus group, for example:

Research Question 3: “How can entrepreneurship be taught effectively in Malaysian polytechnics?”

Interview Question: “Based on your experience as an entrepreneurship lecturer in a polytechnic/university, how do you think entrepreneurship can be taught effectively?”

Accordingly, the informants’ responses in the transcripts (text) were transmitted to the table, and formatted to simplify the process of the emerging theme as shown below. Table 5.2 below shows how themes were developed in the analysis.

Table 5.2 How to Develop a Themes

Respondents	Descriptions	Pedagogy
UKM:UL1	<p>Exploratory and discovery, so entrepreneurship cannot be taught like teaching in class. You can, you introduce, you must give them activity go back, go out. Let them go out find something and come back. And that discovery is important because it stimulates what we entrepreneurs are doing. A lot business people they are entrepreneurship business background but they been discover, discover and discover. So discovering learning and then become more interesting not so much classroom base. It should be out door classroom base. And that you got train and more over attitude. Attitude I had realise have a module that should be based on this model of teaching attitude.</p>	<p>Exploratory discovery outside Outdoor classroom</p>
UMK:UL	<p>PBL is just a methodology, similar to consultant base learning or experiential learning. That is only a mechanism but the whole concept of learning is you must learn entrepreneurship where entrepreneurship is done. So, we are talking about the classroom itself, like here in Kelantan it's like the Pasar Siti Khatijah. The market in Pengkalan Chepa is the classroom. They should spend most of their time in those places..... In UMK we are not only giving a 5 days lectures. When the office closes on Saturday, the student will then start their activities</p>	<p>Practical Hands on Extra works</p>

Next, the text was read repeatedly line by line to emerge the theme or sub theme based on questions asked. In this sense, this form of thematic analysis is data-driven. This process took around two weeks to complete for all transcripts. Interestingly, this process triggered the ideas of the research outcome, the patterns of the theme and a potential interest of issues. The answer from one to another respondent became saturated after a certain stage and to this point generalisations have to be made. Then, theme and sub theme were counted, re-grouped and aligned at the end of the process. It found that there are many sub themes under pedagogy such as exploratory, discover, outside classroom etc. In overall, a number of themes emerge as shown in Table 5.2 above and 5.3 below.

Table 5.3 Summary of the Sub Themes

INTERVIEW	FOCUS GROUP
PEDAGOGY	
<ul style="list-style-type: none"> • Both, but less theory, more on practical /// /// /// • Problem base learning /// • It should be hands-on experience /// • experiential learning /// • discovery // • I think first one simulation, not a lecturer /// • problem solving skills // • group working skills // • exploratory // • simulation // • setting up real company // • learning by doing // • start-up company // • competition and so on. // 	<ul style="list-style-type: none"> • Practical /// /// /// • Both practical and theory • Discussion /// // • Group work /// • Mini project // • Study visit // • outside class room // • business plan games // • People who experienced in venture the company // • Outsider lecturer /// • Discovery // <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Times of words repeat in such text</p> </div>

Table 5.3 above recorded all respondents have a tendency to choose a practical method in teaching entrepreneurship based on the pattern of themes, and lastly a generalisation needs to be made. Hence, it can be concluded the best method to be applied in teaching entrepreneurship is by practical approach rather than theoretical. This sample of analysis continued to the next themes. Then, to be more precise, the themes from the analysis were transferred to the next analysis by using NVivo.

5.5.3 Stage 3: Coding

Codes are based on themes that have emerged from the transcript above, and were analysed by NVivo. In NVivo, the researcher constructs nodes – it is used to represent a code, or the idea of the data. NVivo offers free nodes, tree nodes and case nodes. Initially, free nodes were used because it was not so clear how codes related each other. A Node is a collection of reference about a specific theme, place, person or other area of interest (Bryman and Bell, 2007). According to Bazeley and Richards (2000) in NVivo, coding is a way of expressing thinking “up” from the data: it makes nodes, and gathers references to the material about these topics. It is also a way of thinking “down” from categories to all the material about them.

At this stage, once again the transcripts were read line by line in sorting the passage according to theme provided by thematic analysis. Initially, all transcripts in NVivo were coded by the themes (called nodes in NVivo) as listed in Figure 5.4 below. The 10-15 page transcripts, double-spaced, took an average of 75 minutes to be coded. Each node completed approximately 30 transcripts over a period of a month. This stage is smoothly recorded since the theme had been developed previously and this process become easier and faster. The outcome of the analysis shows that there are 36 themes altogether as portrayed below.

Figure 5.4 Codes/Nodes in NVivo

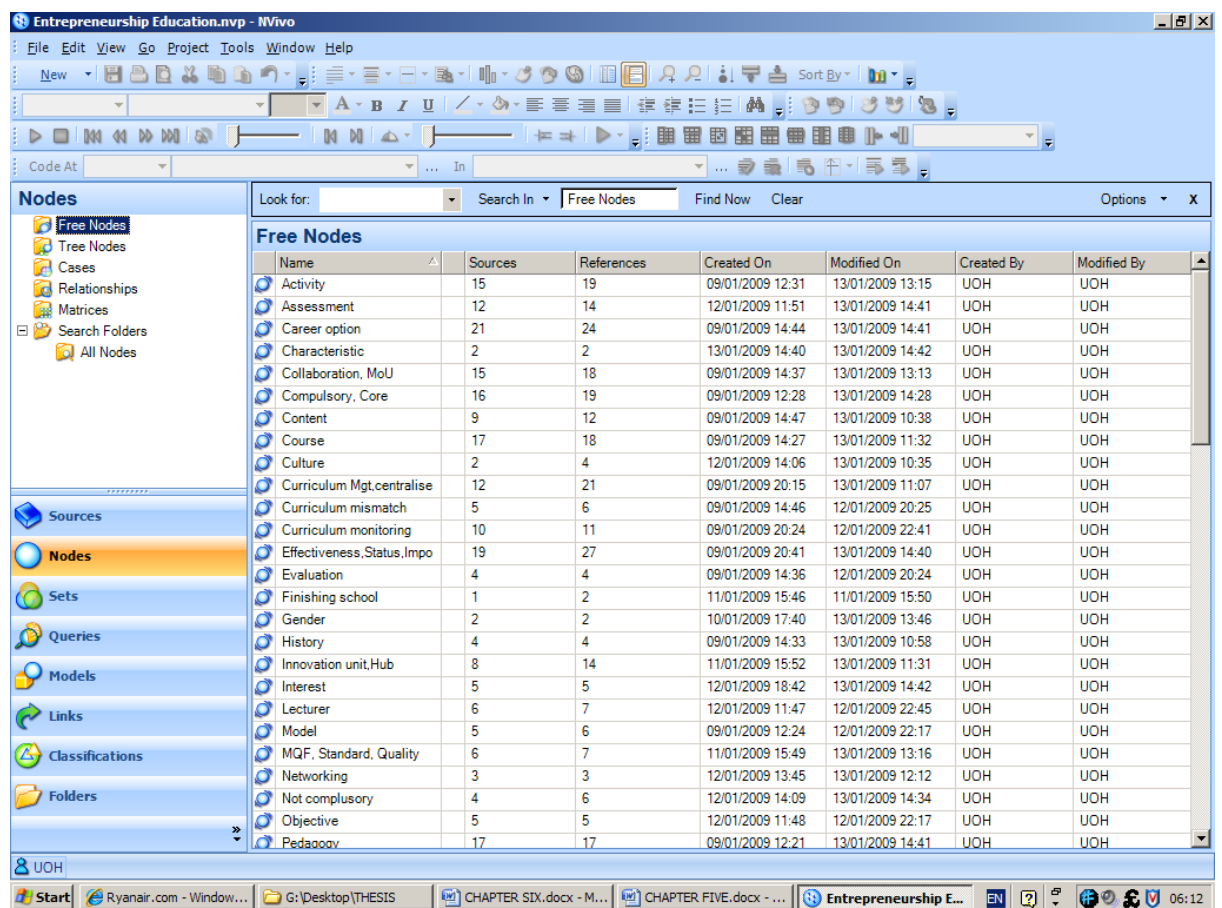


Figure 5.4 above shows that nodes were listed according to the alphabet in NVivo. In origin, from the thematic analysis there are 27 themes to be coded compared to data coding process by NVivo, 36 themes emerged. Its means that the analysis through Nvivo is more comprehensive rather than thematic analysis. However, the theme was regrouped and at the end there is 15 themes was selected as shown in Table 5.3 below.

It is based on the ranking cited from the analysis using NVivo with the higher rank illustrating the more important nodes found in the interview. The higher nodes arranged depend on the frequency of the issue raised by respondents either by the administrator, expert, lecturer or student.

Table 5.4 The Themes

<i>No</i>	<i>Code/Nodes</i>	<i>Mention</i>
1	<i>Problem encountered</i>	20
2	<i>Effectiveness</i>	19
3	<i>Career option</i>	19
4	<i>Compulsory or elective</i>	17
5	<i>Pedagogy</i>	17
6	<i>Assessment</i>	17
7	<i>Objective</i>	15
8	<i>Content</i>	14
9	<i>Characteristic</i>	13
10	<i>Final semester</i>	13
11	<i>Course</i>	12
12	<i>Activity and program</i>	12
13	<i>Cooperation/net working</i>	10
14	<i>Interest</i>	10
15	<i>Solve unemployment</i>	10

Table 5.4 above summarises the interviews and focus group themes analysed by NVivo and thematic nodes or codes, respectively. The theme or results above relate to the research questions set up in this study. This study employed the first type or coding process as mentioned in Paragraph 5.4. “Pick up words, phrases and ideas directly from the text.” The data in free nodes will merge, drop and be used as references in the writing up. In other words, this is a triangulation of the method of data analysis by using thematic analysis and NVivo.

5.5.4 Stage 4: Writing a Report

In this stage, it was calculated how many respondents discussed a similar issue under the same theme and at last generalisations were made. In NVivo, the theme and quotations were arranged and ready to transfer back to Word documents for the purpose of analysing doing line by line interpretation and completing the writing up process. NVivo is useful for data management but the interpretation is done by the researcher.

This is in line with Patton (2002: p.442) who argues that software doesn't really analyse qualitative data. Qualitative software programmes facilitate data storage, coding, retrieval, comparing and linking but human beings do the analysis. At the end of the process, NVivo results show in Figure 5.5 below.

Figure 5.5 Result (Experiential Learning) in NVivo

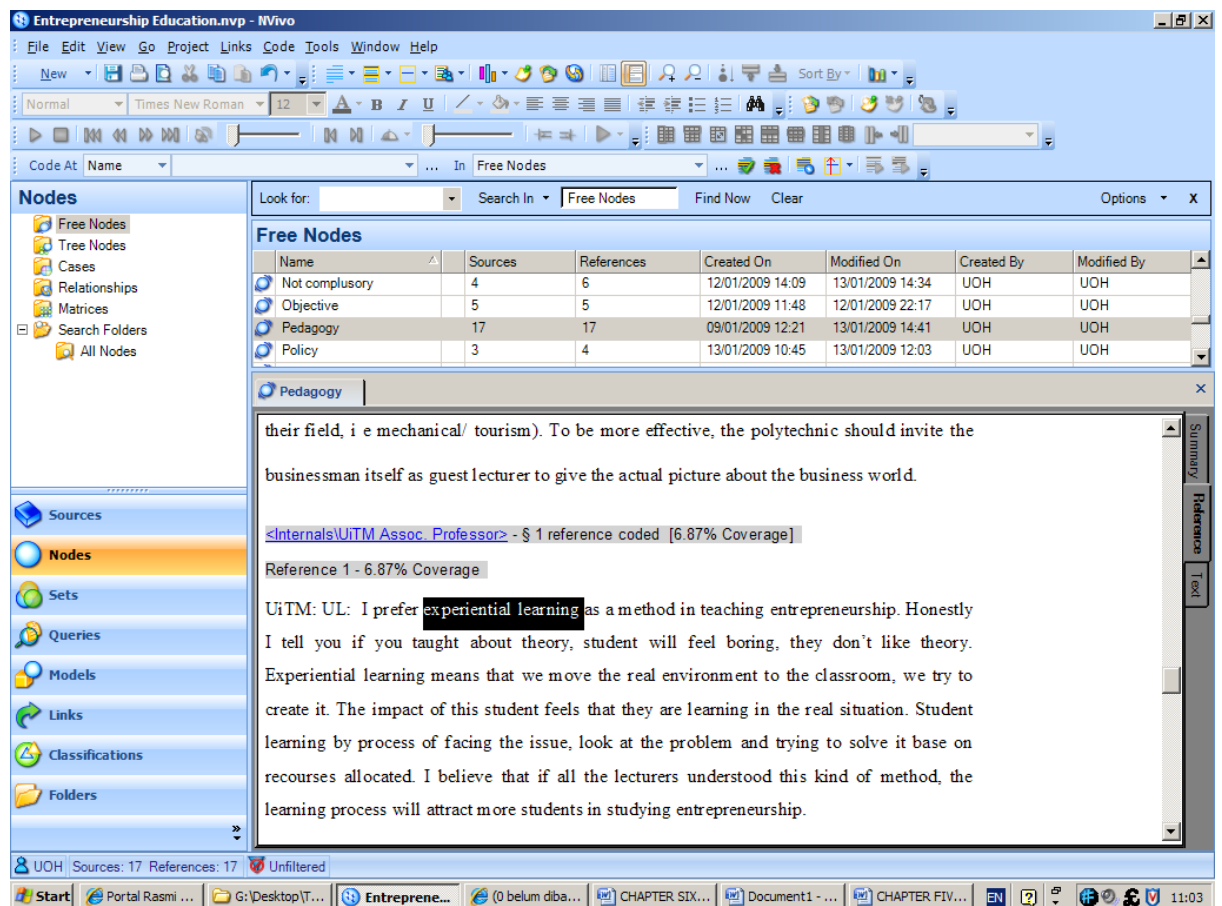


Figure 5.5 above shows that free nodes codes under pedagogy themes. Respondents from the university explain one of the effective methods used in learning entrepreneurship is “experiential learning”. The text regarding pedagogy is stored under themes. The next step is to transfer all the quotations in NVivo based on theme to Word documents. Below is an example of the data under the pedagogy theme which is ready to be interpreted. For example from the quotation in Figure 5.5, the researcher began by reading line by line, again, about the content, the ideas belonging to whom and the

implicit (metaphor) meaning also analysed. From the text above a few generalisations were made, for instance:

Table 5.5 The Process of Developing a Theme

Themes	Pedagogy
Category/Sub theme	Experiential learning
Text/Quotation	<i>I prefer experiential learning as a method in teaching entrepreneurship. Honestly I tell you if you taught about theory, students will feel bored, they don't like theory. Experiential learning means that we move the real environment to the classroom, we try to create it.</i>
Researcher Comment	Accept as effective method

The process was constant for a few times before reaching a conclusion regarding this theme. Then, the ideas were regrouped and a generalisation made based on the opinions from the respondents, and accordingly, the findings of the theme were merged and were ready for writing up process. An illustrative example of how NVivo was used in this study is provided in Appendix 7.

5.6 General Enterprising Tendency Version 2 Test

5.6.1 Organising the Data

Firstly, the questionnaire was translated into the Malay language version to enable polytechnic students to answer the questions properly. The two translators were qualified translators who certified from the ITNM (National Translator Institute of Malaysia). A specially developed demographic section was added to the original questions. The choice of a demography profile is in line with Schaper and Casimir (2007) with questions including on student course, level of study, semester, age, gender, experience in business, and family background.

This section involved 506 polytechnic students, 445 of whom had already been exposed to the entrepreneurship module and activities, and another 61 from Semester 1 who were new to the polytechnic system. This was to perceive whether there is any

difference between existing and fresh students in the GETv2 Test. Beside students, polytechnic lecturers were also tested to check their tendency to entrepreneurship with both sets of results discussed in this chapter. The lecturers used the original questionnaire on the assumption that they would be competent in the English language.

The process of analysis began by entering the data into Excel and transposed to the SPSS programme for data keeping and analysing. The researcher used SPSS to organise demographic data with a simple calculation on statistics such as descriptive analysis. It is a software package which applies statistical formula and carries out computations (Cohen *et al.*, 2007: p.501). In this study the data were analysed and reported by using *mean* to examine the entrepreneurial tendency among the polytechnic students. This is in line with the previous study by Caird (1991), Hj Din (1992), Cromie and O'Donaghue (1992), Cromie and Callaghan (1997), Stomer *et al.*, (1999), Cromie (2000), Kirby (2004) and Kirby and Honeywood (2006).

5.6.2 Grounding Works

In the quantitative part, the sample size needs to be large enough for statistical procedures to be used. It is possible for the researcher to draw inferences with some confidence that the sample reflects the characteristics of the entire population (Creswell and Clark 2007: p.113). Sakaran (2003: p.295 citing Roscoe 1975) proposes the following guidelines for determining sample size: Sample sizes larger than 30 and less than 500 are appropriate for most research.

Initially, the institutions involved in the study were informed via e-mail through the Director to mention that the study will be conducted: the date; purpose; respondent involvement, etc. The respondents for this study included polytechnic students from various courses in five polytechnics in Malaysia. About 600 questionnaires were distributed and from than 506 were usable: a response rate of 84.3 percent. Participants were assured that their responses would be treated as confidential and only aggregate responses would be reported. All questions were dichotomous (agree or disagree) and required ticking the appropriate response in the answer squares, hence minimising the completion time. The questionnaires were administered personally to each respondent.

5.6.3 Pilot Test

The questionnaires were pre-tested through a pilot survey to enable all students understood the questions. The purpose of the pilot test is to refine the questionnaire so that respondents will have no problem in answering the questions (Saunders *et al.*, 2009). The questionnaires were sent to the Sultan Salahuddin Abdul Aziz Shah (PSA) in advance of the researcher undertaking the field work. The head of the Commerce Department was appointed to assist the survey process: make a copy of the questionnaire, find the group of respondents and the location for the test. This questionnaire was administrated in the first week of the data collection process. Seventy questionnaires were administrated in PSA, a total of 66 were returned giving 94.2 percent of respondents obtained for this pilot study. This is in line with Fink (2003) who suggests the minimum number of small survey is 10. This polytechnic was chosen for the reason of logistics: the location is close to the researcher's office, CDED, Putrajaya. Feedback from participants was evaluated and modifications were made based on their responses and comments before the actual survey was carried out. Most of the comments were with regard to the clarity of the statement in the questions. After review the questionnaire was employ to the polytechnic respondents in the study. The finding of the "piloted test" is reported below:

Table 5.6 Pilot of GETv2 Test

GET Score	Frequency	Percent	Valid Percent	Cumulative Percent
0-26	43	65.2	65.2	65.2
27-43	23	34.8	34.8	100.0
Total	66	100.0	100.0	

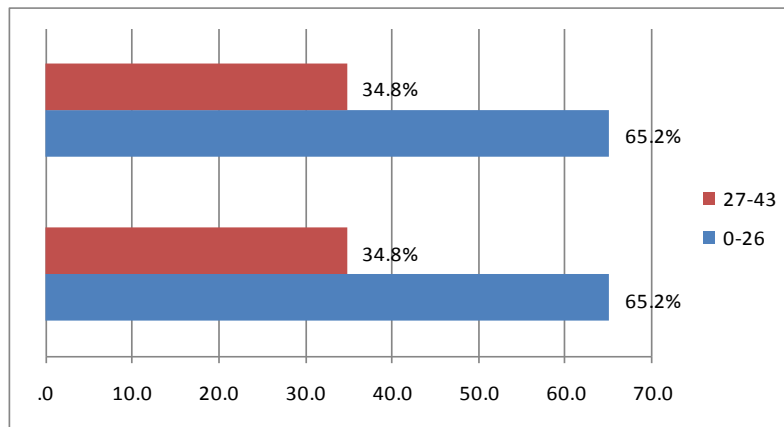


Figure 5.6 Pilot of GETv2 Test

Table 5.6 above recorded 65.2 percent (43) of the respondents scored between 0-26, *less* enterprising. This score means that they are probably happiest working with guidance from superiors, or they prefer employment rather than working as self-employed. The table above also illustrates that 34.8 percent (23) of respondents score between 27 and 43, which indicate that PSA respondents are *occasionally* enterprising. Lastly, nobody scored in the higher level (44-54) in this piloted test.

5.6.4 Collecting Data

In the actual field work, the test was conducted with commerce students and non commerce students in Semester 3 onwards when entrepreneurship modules were offered as a compulsory or elective course respectively. However, a number of the first semester students without experience in entrepreneurship education were also tested for the purposes of comparison. The procedure to gather the data was explained in Chapter 6. During the appointment date, the researcher together with the head of department conducted a ten minute survey: distributing the questionnaire to the respondents; giving an explanation to the respondents if they had any difficulties in understanding the questionnaire; and gathering the questionnaire from the respondents.

5.6.5 Analysis of Data

As well as the results acquired in this stage, the interview and focus group questions were modified based on the findings. The collected questionnaire was analysed starting

from the data screening, key-in to the Excel, and then transposed to SPSS for data keeping. The SPSS was used in order to minimise the time of data analysis especially in the demography section and for the simple calculation process. The data also were analysed manually to measure whether or not the students had the personality/traits of entrepreneurs by the guideline provided by Durham University Business School as attached in Appendix 2.

5.7 Conclusions

The data collected through interviews and focus groups was analysed via Nvivo and thematic analysis. Prior to this, the data from the questionnaire was analysed using SPSS. The explanation above is based on real experience gained during the process of data collection, data analysing and a small part of writing a thesis. Data analysis is a critical part of the whole thesis of the study. Indeed, this section needed a sacrifice of time, patience, consistency and high perseverance in order to complete the whole process of data analysis. With this picture of experience and knowledge, it gives the researcher some reflection on the ups and downs regarding the actual life of PhD candidates.

CHAPTER 6

MALAYSIAN CONTEXT

6.1 Introduction

In recent years, the development of entrepreneurship education has risen up the agenda in Malaysia. It has received increasing government attention in higher learning institutions, including polytechnics. The development of entrepreneurship, as both a concept and an activity, has been growing in importance in Malaysia (Ariff and Abu Bakar, 2003). This chapter is divided into three sections. Firstly, the discussion focuses on the background of Malaysia, explaining the efforts by the Malaysian government to promote entrepreneurship among its people in general, and the indigenous Bumiputeras in particular. The second part concentrates on the development of the national educational policy on entrepreneurship in Malaysia and outlines how the implementation of policy is brought about in the educational system. Finally the current development of entrepreneurship education at polytechnics in Malaysia will be explored.

This chapter therefore brings together and examines important secondary data to support the discussion of entrepreneurship education. It reviews current practice in Malaysia and therefore provides a backdrop against which to explore best practice and possible future developments. Conclusions from the research will be used to review findings from this chapter in order to suggest how current practices in Malaysia entrepreneurship education can be modified to enhance the effectiveness of teaching and learning methods in this area in Malaysian polytechnics.

6.2 Malaysia: An Overview

6.2.1 Geographic Location and Climate

Malaysia is a sovereign member of the Association of Southeast Asian Nations or ASEAN. Malaysia is located in Southeast Asia. The country is a federation consisting of 13 states and three federal territories that are spread over part of the island of Borneo

and Peninsular Malaysia. Malaysia's immediate neighbours are Thailand, Singapore, Brunei Darussalam and Indonesia (Malaysia 2004). In total land area, Malaysia is about 330,113 square kilometres (The Economist, 2005: p.3). Due to its proximity to the equator, Malaysia's climate is hot and humid throughout the year and is characterised by high temperatures and abundant rainfall (Kaur, 1999). (Figure 6.1 illustrates the location of Malaysia in South-east Asia.

Figure 6.1 Malaysia in South-east Asia



Source: <http://www.state.gov/p/eap/ci/my/>

6.2.2 Historical Background

Entrepreneurial activity has a long history in Malaysia and examples have been documented since the 14th century. Malay entrepreneurs have been actively involved in business since the Malacca Sultanate (Zafar Ahmad *et al.*, 2005). In the 1400s, Malacca was a regionally strategic trading centre. Its location at the convergence of major trade routes, extending eastward to China and westward to India and Europe, made it an extremely important port in the region. Therefore, circa 1400, Malacca became one of the wealthiest places in Southeast Asia, which in turn, became a target for many of Europe's colonising powers (Jesudason, 1990). Malay entrepreneurship deteriorated

after Malacca was colonised by the Portuguese in 1511, followed by the Dutch in 1648 and by the English in 1824 (Lee, 1999). In the Second World War, Malaya was colonised by Japan. When the Japanese were defeated in 1945, the British took over Malaya, practicing the principle of 'divide and rule' to enable the British to control the three major ethnic groups in Malaysia: Malay, Chinese and Indian (Zafar Ahmad *et al.*, 2005).

Under colonial rule, British administrators encouraged indigenous Malays to work the land, while the ethnic Chinese dominated the small business sector of Malaya. "Secret societies" were the principal support network organisations of the Chinese immigrants. The Chinese entrepreneurs (*towkays*) were amongst the leaders of these secret societies and indirectly controlled the education and training of employees (Dana, 2001). The Chinese were given high status and places to live in urban areas, working as traders and receiving better education than the Malays and Indians. The principle of 'divide and rule policy' was implemented until Malaysia gained its independence in 1957 (Zafar Ahmad *et al.*, 2005; Kamarudin Mamat and Ramli Raya, 1990). This policy was politically and economically very much advantage to the British (Firdaus Abdullah, 1997: p.196). The policy caused gaps to form in the social and economic spheres (Chin, 2003). Subsequently, inequalities between ethnic groups arose, especially among the Malays who believed they had been left behind in the overall economic growth (Kamarudin Mamat and Ramli Raya, 1990). As a result, tensions between the Chinese community and the Malays Alliance sparked riots in which more than 2,000 people, mostly Chinese, died in 1969. The government declared a state of emergency (Kamarudin Mamat and Ramli Raya, 1990). In addition, evidence for the culture of entrepreneurship amongst the Chinese since the 15th century exists in Malaysia and has been inherited and developed to this day. The colonial interference of the 19th century has assuredly changed the socio-economic situation in Malaysia and attempts to reverse this fact are regarded as part of the challenge towards achieving economic maturity for the nation.

6.2.3 The Social Background: Ethnicity, Language and Religion

Malaysia's ethnic groups can be classified into two main categories: i) Bumiputera¹⁴, such as Malays and other indigenous groups who share cultural affinities in the region, and ii) non-Bumiputera, whose cultural affinities lie outside the region, for example the Chinese and Indians (Jesudason, 1990). In the context of this study, these terms are used to represent the ethnic groups in Malaysia. Bahasa Malaysia (Malay language) is the national language in education and administration while English is still widely used, especially in the business sector. However, Chinese and Indian people prefer to use their own language, especially in their community as well as the other languages and dialects used within their own groups and tribes.

The Malaysian population was estimated to have reached 26.1 million by mid-2005 (The Economist, 2005). It was increased from 27.17 million in 2007 to 27.73 in 2008 and at 2009, there are 28.31 million (Department of Statistic Malaysia, 2009). Bumiputera made up 65.1 percent of Malaysian citizens, ethnic-Chinese 27.2 percent and Indians 7.7 percent (UNESCO-IBE, 2008). In the 2000 census, 94.1 percent of the total population of Malaysia were Malaysian citizens (Dana, 2001).

In a multi-ethnic and multi-cultural country like Malaysia, national unity is the overriding goal in the formulation of socio-economic policies. The nations' ideology, *Rukun Negara* proclaimed in 1969 forms the basis for consolidation of national unity. Since the proclamation, it has provided direction for all political, economic, social and cultural policies and constitutes an important milestone in the development of education in Malaysia. Development in education was furthered through: the National Philosophy of Education (NPE), which was established in 1988; the policy statement of the National Development Plan (NDP) in 1991 (EFA, 2000); and the New Economic Policy (UNESCO-IBE, 2008). The aspirations and principles of *Rukun Negara* are national unity, democracy, justice, equality, liberty, diversity and progress. The guiding principles to achieve these ends are a belief in God, loyalty to king and country, upholding the constitution, rule of law, and morality.

¹⁴ Bumiputra or Bumiputera (Malay, from Sanskrit *Bhumiputra*; translated literally, it means "son of the soil"), is an official definition widely used in Malaysia, embracing ethnic Malays as well as other indigenous ethnic groups such as the Orang Asli in Peninsular Malaysia and the tribal peoples in Sabah and Sarawak.

Islam is the official religion of the Federation of Malaysia. All Malays and some indigenous Bumiputeras are Muslims (about 60 percent). All Muslims are bound by the Islamic laws according to the Koran. The Chinese, on the other hand, mainly follow the teachings of Buddhism and Taoism (about 22 percent). The majority of Indians are Hindu (about 6 percent), with some Muslims included in their number. Christianity (about 9 percent) is practised by some Chinese, Indians and non-Muslim Bumiputeras. Some indigenous groups are still practising their animist traditions (about 3 percent) (Malaysia 2004).

6.2.4 Constitution and Governmental System

Malaysia is a parliamentary democracy with a constitutional Monarch. Malaysia has a centralised system of government that is modelled on the British parliament (Jesudason, 1990). The King is the supreme head of the Federation of Malaysia. He is elected for a five-year term by his fellow rulers from the other nine states (Perlis, Kedah, Perak, Selangor, Negeri Sembilan, Johor, Pahang, Terengganu and Kelantan). In other states, namely Pulau Pinang, Melaka, Sabah and Sarawak, the Yang Di-pertua Negeri or Governor of the State is the Head of State, appointed by the Yang Di-pertuan Agong (Kaur, 1999). The government, (based on parliamentary democracy), is headed by the Prime Minister and members of the Cabinet. Today, the ruling party is Barisan Nasional (The National Front), an alliance of parties representing different racial groups. At the state level, Menteri Besar are the heads of state governments for states with a monarchy, and Ketua Menteri are the heads for states without a monarchy. The Parliament comprises two houses. The Dewan Negara (Senate), whose members are nominated and appointed by the King, and the Dewan Rakyat (House of Representatives), which is democratically elected. Malaysia has a constitution which can only be amended by a two-thirds majority in Parliament (Malaysia, 2004).

6.3 The Economic Development in Malaysia

This section will give a brief idea of government policy in developing the country since Malaysia was affirmed as an independent country by the British colonials on the 31st August 1957.

6.3.1 The New Economic Policy (NEP) 1970-1990

Since independence on 31st August 1957, some pivotal policies have been introduced. The New Economic Policy (1970-1990) was carried out as two-pronged strategy to eradicate poverty and to restructure the multicultural society in Malaysia (Haji Din, 1992b; Takashi Torii, 1997). The Policy emphasised the importance of developing entrepreneurs, especially among the Malays, who were believed to have been left behind in the overall economic growth (Kamarudin Mamat and Ramli Raya, 1990). Originally, the NEP set a restructuring target of 30:40:30. By 1990 it was hoped the holdings of the Bumiputera should reach 30 percent, other Malaysians 40 percent and foreigners 30 percent, in the context of an expanding economy (EPU: 2008). Under the National Economic Policy (NEP), emphasis was put on increasing effective Bumiputera ownership and participation in the corporate sector, improving Bumiputera participation in high-income occupations, as well as narrowing income inequality and eradicating poverty. The aim was to attain at least 30 percent effective Bumiputera equity ownership by 2000, but this goal was revised to 2010 as stipulated in the Third Outline Perspective Plan (OPP3), 2001-10.

However, by 1990 corporate equity holdings had risen from 2.4 percent in 1971 to 20.3 percent in 1990, so the 30 per cent target was not reached (Boocock and Presley, 1993). According to Jomo, (2004) the NEP's main restructuring target was to raise the Bumiputera share of corporate stock ownership from 1.5 percent in 1969 to 30 percent in 1990. The government's data suggest that Bumiputera ownership rose to about 18 percent in 1990 and slightly over 20 percent in 2000. Malaysia has succeeded in reducing the incidence of poverty from 49.3 percent in 1970 to 5.7 percent in 2004 (Malaysia, 2006). In 1990, the Bumiputeras' equity share amounted to 20.4 percent of total corporate equity share and the holdings of other Malaysians stood at 46.8 percent and 25.1 percent for foreigners. Although the Bumiputera have not achieved the 30 percent equity ownership target by 1990, their progress has been substantial when one compares their position in 1970 (EPU, 2008).

Today, the incidence of poverty among Bumiputera has further decreased from 12.4 percent in 1999 to 8.3 percent in 2004, from 3.5 percent to 2.9 percent among Indians, and among Chinese and from 1.2 percent to 0.6 percent among the Chinese. The

deliberate intervention by the government to improve Bumiputeras' socioeconomic status through the NEP has drawn criticism. Several policies, such as the Bumiputeras' planned corporate equity ownership of 30 percent, university quotas, and preferential opportunities that allow Bumiputera contractors to secure lucrative government contracts, has given an economic advantage to Bumiputeras at the expense of non-Bumiputeras (Jomo, 1991). The other main criticism of the NEP is/was that it created a politically-influenced business culture (Gomez and Jomo, 1999). As a result, many of the government's mega projects have been dominated by politically well-connected Malay businessmen, who have benefited greatly. Non-Bumiputeras are able to secure projects through the so-called 'Ali-Baba' partnerships with Bumiputera businessmen (Jomo, 2004).

'Ali', or the Malay partner, was the less active or 'sleeping partner', contributing his political influence and connections. 'Baba', or the Chinese partner, was the more active half of the alliance, contributing his capital, skills and technical know-how. This kind of partnership gave Chinese access to licenses and lucrative government contracts reserved for Bumiputeras, especially in the construction and transportation sectors (Nonini, 1983). Indeed, as noted by Shamsul (2007), NEP will remain a never ending policy generating a never ending polemic. The policy was finally replaced by the New Development Policy in 1991.

6.3.2 The New Development Policy, NDP (1991-2000)

The NDP was introduced in 1991 as the successor to the NEP in the Second Outline Perspective Plan (OPP), executed between 1991 and 2000 under the Sixth Malaysian Plan (Malaysia 1991). The National Development Policy replaced the New Economic Policy in 1990 but continued to pursue most NEP policies. All the Five-Year Malaysia Plans, starting from the Third Malaysia Plan (1976-1980) have placed special emphasis on the objectives and strategies pertaining to regional development. It was continued by the Fourth Malaysia Plan (1981-1985), Fifth Malaysia Plan (1986-1990), Sixth Malaysia Plan (1991-1995), Seventh Malaysia Plan (1996-2000), Eighth Malaysia Plan (2001-2005), and Ninth Malaysia Plan (2006-2010). The NDP is part of Second Outline Perspective Plan (OPP2 -1991–2000). The aforementioned target of at least 30 percent

Bumiputera ownership continues to guide the strategy for restructuring the corporate sector (Malaysia, 1991: p.115).

The objectives of the NDP are manifold. There is a primary focus on poverty strategy and the eradication of hardcore poverty. Secondly, the focus shifts to employment and the rapid development of an active Bumiputera Commercial and Industrial Community (BCIC). This strategy is designed to increase the meaningful participation of the Bumiputera in modern sectors of the economy, rather than emphasise Bumiputera ownership and control of corporate equity. Thirdly, there is a greater reliance on private sector involvement in helping attain restructuring objectives by creating greater opportunities for its growth. Fourthly, there is/was also to be a greater focus on human resource development as a fundamental requirement for achieving the objectives of growth and distribution (Malaysia, 2004b). In regard to this matter the role of education is of paramount importance in order to achieve the objectives of the NDP. Currently, education and training programmes play a vital role (Ahmad Sarji, 1993; Haji Din, 1992b) by valuing education and training; its ultimate aim being the development of skilled Bumiputera entrepreneurs meaningfully participating in modern and professional sectors such as business and engineering (Malaysia 1991).

6.3.3 Vision 2020

In January 1991, the Malaysian government unveiled “Vision 2020” the proposed year by which Malaysia would achieve the status of an industrialised and developed country in terms of its economy, national unity, social cohesion, social justice, political stability, system of government, quality of life, social and spiritual values, national pride and confidence (Mahathir, 1993). In achieving the Vision, there are nine key challenges facing the country (Ahmad Sarji,1993):

- Challenge 1: establishing a united Malaysian nation made up of one Malaysian race (*Bangsa Malaysia*)
- Challenge 2: creating a psychologically liberated, secure and developed society
- Challenge 3: fostering and developing a mature democratic society
- Challenge 4: establishing a fully moral and ethical society
- Challenge 5: establishing a mature, liberal and tolerant society
- Challenge 6: establishing a scientific and progressive society

- Challenge 7: establishing a fully caring society and a caring culture
- Challenge 8: ensuring an economically just society
- Challenge 9: establishing a prosperous society with a fully competitive economy

With the Vision of becoming an industrialised nation by 2020, Malaysia must be prepared to create a knowledge, skill or expertise through education (Ramli-Mustapha *et al.*, 2008). From an education perspective, this Vision can be accomplished via a knowledge-based economy (K-economy). Employment in the knowledge-based economy is characterised by: an increasing demand for more highly-skilled, multi-skilled workers; individual workers who have global mobility, are highly competitive, flexible, independent; critical thinkers who can use knowledge as a commodity to survive in the intensified competition in the global arena (Pillay & Elliot, 2002). Hence, Malaysia's Vision 2020 can only be attained when Malays, who make up about 65 percent of the total population and also adult learners in general, possess skills well suited for the 21st century. Such a worker may present itself in sophisticated Malaysians who are capable of meeting challenges, able to compete without assistance, able to learn and become knowledgeable, and to be honest, disciplined, trustworthy and competent citizens (Shamsul, 1999).

Malaysia is now at the mid-point in its journey towards becoming a developed nation in 2020 and is just embarking upon the second 15-year phase (Malaysia, 2006). The launch of the Ninth Malaysia Plan has given new hope to the major players in industry. It has been forecast that RM20 billion of project development needs to be implemented to support Vision 2020 (Jaafar and Abdul Aziz, 2008). Universities play a very important role in this. Unless they are able to produce graduates of the highest calibre, the lofty objective of being a fully developed nation by 2020 will be in jeopardy (Mustapha Mohamed, 2006).

6.3.4 Ninth Malaysia Plan (9MP)

The Ninth Malaysia Plan is the first of three five-year blueprints for the National Mission. This encapsulates policy direction and programmes, which are aimed at delivering the thrust of the Mission's philosophy. The National Mission will drive the design and priority of programmes, plans and budgets from the year 2006 onwards.

Consistent and determined effort in the implementation and delivery of the National Mission will leave the nation well placed to fulfil its aspirations and join the ranks of developed nations by 2020 (Malaysia, 2006).

Recognising the importance of self-employment in employment creation and economic growth, efforts will be intensified to create more self-employment opportunities. Business opportunities for self-employment and entrepreneurship include petty trading, SMEs, agriculture and services. The inculcation of entrepreneurial values and changing the mindset so that self-employment is viewed as a viable alternative to salaried employment will be intensified, including in institutions of higher education. In addition, a special entrepreneurship training programme will be implemented for unemployed graduates (Malaysia, 2006). One of the key focuses of the Ninth Malaysian plan (2006 – 2010) budget is to develop the higher education infrastructure. Federal government allocation to this ministry was increased from RM13,554 billion in the Eighth Malaysian plan to approximately RM16,069 billion (Malaysia, 2006). Secondly, serious attention is being paid to entrepreneurial studies in the Ninth Malaysia Plan (2006-2010) to support the economic development in Malaysia (Norasmah Othman *et al.*, 2008: p.116).

6.4 Entrepreneurship Development in Malaysia

As mentioned in paragraph 6.2.2, entrepreneurship has been growing since the Malacca Sultanate. In Malaysia, overcoming ethnic inequalities has been considered to be the key to the nations' political and economic development. For instance, in order to remedy the economic inequalities that existed within the country, it was agreed among representatives of the three major ethnic groups that upon independence, the Malays would be granted certain “special rights” in the realms of religion, economics and politics. The main reason for this “positive discrimination” was to elevate the status of the economically disenfranchised Malays, and thereby create a more equitable society (Ariff and Abubakar, 2003). Although ethnic Malays account for some 60 percent of the population, business in Malaysia has historically been dominated by ethnic Chinese. With an eye toward correcting this imbalance, and partly in response to ethnic rioting in 1969, the government instituted the New Economic Policy (NEP) in 1970. Since that time, Bumiputeras have been given, among other privileges, priority for government

contracts, increased access to capital, opportunities to buy assets that are privatized, and other subsidies (Gomez and Jomo, 1997).

Through the establishment of more than 20 agencies, the government tried to promote the idea of people becoming entrepreneurs. In other words, the development of modern entrepreneurship in Malaysia became important after the riot (on May 13th, 1969) (Kamarudin Mamat and Ramli Raya, 1990). After the post-election racial riots of May 1969, the government was compelled to review its overall policy on national unity and national integration. This led to the promulgation of the 'Rukun Negara' (*National Ideology*), the Constitutional (Amendment) Act of 1971 and the introduction of the New Economic Policy (Rajendran, 2005).

The entrepreneurial development programs focussed in part on encouraging self-employment as well as promoting entrepreneurship amongst the young. Under the Youth Economic Trust Fund, soft loans provided by the Government encouraged young people to set up their own businesses. In 2002, a total of 1,492 youths obtained loans from this fund (MoE, 2004). The long-term planning for education and training development expenditure is shown in Table 6.1 below:

Table 6.1 Development Expenditure and Allocation for Education and Training, 2001-2010 (RM Million)

<i>Programme</i>	<i>8MP Expenditure</i>	<i>9MP Allocation</i>
Education	37,922	40,357
Pre-school	216	807
Primary Education	5,369	4,837
Secondary Education	8,748	6,793
Government & Government-aided Schools (Academic)	7,931	5,549
MARA Junior Science Colleges	433	615
Government & Government-aided Schools (Technical & Vocational)	384	629
Tertiary Education	13,404	16,069
Teacher Education	1,368	1,578
Other Educational Support Programmes	8,816	11,272
Training	4,451	4,793
Industrial Training	3,931	4,104
Commercial Training	158	180
Management Training	362	510
Total	42,373	45,149

Source: Ministry of Higher Education (EPU, 2006), Ninth Malaysia Plan

Table 6.1 above shows the increasing government expenditure in education and training between the 8th Malaysian Plan (RM42, 372.9 million) and the 9th Malaysian Plan (RM45,149.1 million). This indicates that education (for youth) has become an important agenda in the country. In Malaysia, entrepreneurship has undergone a period of rapid growth in the last 10 to 15 years. It is acknowledged to be a critical area that provides vital support to the process of economic development in achieving a developed nation status (Chong Siong Choy *et al.*, 2005). As a result of the government's efforts to increase socioeconomic status and promote an equitable distribution of wealth, especially among Bumiputera through the Bumiputera Commercial and Industrial Community, the perceived importance of entrepreneurship and entrepreneurial development has become much more widespread (Mahathir Mohamad, 1993; Ariff and Abubakar, 2003).

There are many Ministries and agencies concerned with SME development. Overall, more than 12 ministries and 38 agencies are involved. Two main ministries, the Ministry of International Trade and Industry (MITI) and the Ministry of Entrepreneurship and Cooperation Development (MECD) are responsible for providing international support and programmes. It is assisted by many agencies. For example, the Small and Medium Industries Development Corporation (SMIDEC), Majlis Amanah Rakyat (MARA), the Malaysian Industrial Development Association (MIDA), Malaysia External Trade Development Corporation (MATRADE), the Malaysian Technology Development Corporation (MTDC), the Malaysian Industrial Development Finance (MIDF), the Malaysian Industrial Entrepreneur Location (MIEL), and the National Productivity Corporation (NPC) (Zizah Che Senik *et al.*, 2007).

For instance, INSKEN aims to instil an entrepreneurial culture among students at the primary, secondary and tertiary levels, providing basic exposure and entrepreneurship training to budding entrepreneurs and to assist their preparation for the business culture. It has developed a compact and comprehensive entrepreneurship curriculum that meets with certification standards recognised by all government agencies and other entrepreneurial training institutes (www.mecd.gov.my).

6.5 Ministry of Higher Education (MoHE)

The Ministry of Higher Education was established on 27th March 2004. On 15th July 2004, the Ministry of Higher Education began operating at Block E3, Parcel E, Pusat Pentadbiran Kerajaan Persekutuan Putrajaya, Wilayah Persekutuan Putrajaya, Malaysia. The Malaysian Ministry of Higher Education is comprised of two departments and an agency. The departments acting for the Ministry of Higher Education are the IPT Management Department (JPIPT) and the Polytechnic and Community College Management Department (DPCCE) (www.mohe.gov.my).

6.5.1 Strategic Planning of Higher Education

In order to further improve the quality of higher education in Malaysia, including its polytechnics, the Malaysian Government launched the Higher Education Strategic Plan on 27th August 2007. This plan aims to transform the higher education sector to produce highly knowledgeable and 'First-Class Mentality' human capital as well as developing world class higher education institutions. During the tabling of the Ninth Malaysia Plan in March 2006, The Prime Minister asserted (Abdullah, 2006):

“Development of quality human capital will be intensified. The approach must be holistic and emphasise the development of knowledge, skills, intellectual capital in fields such as science, technology and entrepreneurship. Simultaneously, we must develop a culture that is progressive, coupled with high moral and ethical values. This is what is meant by human capital with First-Class Mentality.”

(Abdullah Ahmad Badawi, 2006)

The Ministry of Higher Education, working alongside universities, polytechnics, community colleges and other institutions of higher learning will play an important role in the development of human and intellectual capital.

6.5.2 Entrepreneurship Education at Higher Education Institutions in Malaysia

Entrepreneurship education at higher learning institutions is expanding in Malaysia in many academic and practical aspects (Kementerian Pendidikan Malaysia, 1995; Za'faran Hassan, 2003; Armanurah Mohamad *et al.*, 2005). It is a suitable field offered by public institutes of higher learning in order to develop entrepreneurship potential

among graduates (Haji Din *et al.*, 2005). This effort is implemented through the development and execution of an entrepreneurship curriculum, lessons, and learning activities both formally or informally (Nor Aishah Buang, 2006). In addition, the Malaysian Government plans to make entrepreneurship courses compulsory for all public university students in the hope that 5 percent will become entrepreneurs after graduating. This plan was conceived by public universities and the Ministry of Entrepreneurship and Cooperative Development. It hopes to encourage graduates to become entrepreneurs (Jaafar and Abdul Aziz, 2008)

According to Norasmah Othman *et al.*, (2008), courses in entrepreneurial studies are offered by all Institutes of Higher Learning (IHL) in Malaysia. The introduction of these courses to all students is in line with the educational goals of the IHL to assist the economic development of the country. Among the roles of the IHL are to develop human potential and facilitate those with potential by providing training in various fields and create a trained group who will later function as the human resource of the country. Accordingly, there are a growing number of academic courses offered as a core course, an elective course, an entrepreneurship programme, a Bachelor of Entrepreneurship and also courses at postgraduate level (Hashim and Wafa, 2002).

For instance, institutions of higher education such as University Malaya (UM), University Putra Malaysia (UPM), Universiti Kebangsaan Malaysia (UKM), University Teknologi Mara (UiTM), Universiti Sains Malaysia (USM), Universiti Utara Malaysia (UUM), Universiti Malaysia Sabah (UMS) are offering such courses at both undergraduate and graduate level. Apart from offering the courses, many of these institutions have also established special centres to provide services to SMEs. These centres provide services such as research and development (R&D), training, consulting and information (Mohd Khairuddin Hashim, 2002)

Unfortunately, most entrepreneurship courses are offered only to business students and use the didactic teaching approach instead of the entrepreneurial teaching approach (Haji Din, 1992b; Mohd Fauzi *et al.*, 2007). The internal environment of universities need improvement in order to implement effective entrepreneurship education. National higher education planning needs a dynamic and relevant curriculum and pedagogy to ensure the good health and strength of an institution. Inter-disciplinary approaches to

the design of higher education curricula will build and stimulate creativity, innovation, leadership and entrepreneurship. Curricula must also equip undergraduates with appropriate skills to enable them to compete in an ever-changing market. Curricula must be reviewed, and courses that are no longer relevant must be removed. Peer review and industry collaboration must be enhanced in curricula development and evaluation (NHEAP, 2007: p.27).

As mentioned in the problem statement section above, the Malaysian Government is extremely keen to produce entrepreneurs in Malaysia through better education. In 1975, the MARA Institute of Technology (ITM)¹⁵ established the Malaysian Entrepreneurship Development Centre (MEDEC), to help develop entrepreneurship and train the indigenous Bumiputeras (Dana, 2001). The other centres include: the Small Business Development Centre at UPM; Entrepreneurial Development Institute at UUM; Bureau of Innovation and Consultancy Centre at UTM; Food Quality Research Unit and the Bureau of Consultancy and Development at UKM (Mohd Khairuddin Hashim, 2002: p.29). Details of the entrepreneurial academic programme offered by several public IHLs are set out in Table 6.2 below.

Table 6.2 The Entrepreneurial Development Units/Research Centre's and the Academic Programmes in Malaysia Higher Learning Institutions

Names of public HEIS	Detail of entrepreneurial studies in the academic programmes at public IHL
Kolej Universiti Islam Malaysia (KUIM)	Entrepreneurial studies is one of areas at the Masters and PhD level offered by Economic and <i>Muamalat</i> Faculty
Kolej Universiti Kejuruteraan dan Teknologi Malaysia (KUKTEM)	Entrepreneurial studies is offered as a foundation programme and as an elective for the following programme: 1) Entrepreneurs and Business is a core course for the Bachelor Degree in Chemical Engineering (Biotechnology) 2) Entrepreneurship and Business is a core course for the Bachelor Degree in Mechanical Engineering 3) Cyber Entrepreneurship is a core course in the Diploma of Computer Technology (Software Engineering) 4) Entrepreneurship is an elective for the Bachelor of Electrical Engineering (Electronic)
Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM)	Entrepreneurial skills are offered as a core subject in the Faculty of Information Technology and Communication. The subject is offered in the degree Bachelor of Software Development, Computer Networking, Base Data, and Interactive Media. Apart from that, entrepreneurship is also offered as a specific programme for the Master's programme i.e. Master for Entrepreneurial Science. For the Doctoral degree, entrepreneurship is one of the research areas.
Kolej Universiti Teknologi Tun Hussein Onn	Entrepreneurship as a subject is a core course for the following faculties: 1) Business and entrepreneurship is a core subject in the diploma

¹⁵ Changed to MARA University Institute of Technology (UiTM) on August 1999

(KUiTTHO)	<p>programme offered by the Faculty of General Engineering and Environment</p> <p>2) Basic Business and Entrepreneurship is a core subject for the diploma offered by the Mechanical Engineering and Manufacturing Faculty.</p>
University Islam Antarabangsa (UIAM)	The subject of entrepreneurship is an elective for the Bachelor degree programme in Business Administration offered by the Economics and Management Science Faculty.
University Kebangsaan Malaysia	Entrepreneurship is an elective subject for the Bachelor degree course in Business Administration offered by Economics and Business Faculty. Entrepreneurship is a minor programme for the Bachelor degree course in Administrative Management offered by the Education Faculty. It is also one of the research areas in the Education Faculty for Maths and doctoral candidates.
University Malaya (UM)	Entrepreneurship is an elective subject for the Bachelor of Business Administration course and it focuses on management. It is an elective subject for the Master's programme in Business Administration offered by Policy and Business Strategy Department, Business and Accountancy Faculty. Entrepreneurship is a research area for a doctoral programme and is offered by the Policy and Business Strategy Department, and Business and Accountancy Faculty.
Universiti Malaysia Malaysia Sabah (UMS)	Entrepreneurship is a core subject for the Bachelor degree of Business with credit and Bachelor for Economics degree with credit majoring in entrepreneurship offered by the School of Business and Economics. It is also one of the research topics for the Master and Doctoral degrees offered by School of Business and Economics.
University Malaysia Sarawak (UNIMAS)	Entrepreneurship is one of the major subjects in the Masters for Corporate Management Business Administration course (CMBA). It is also one of the research areas for the Master's and Doctoral degrees for the Business and Economics Faculty.
Universiti Pendidikan Sultan Idris (UPSI)	Entrepreneurship is one of the core subjects for the Bachelor of Entrepreneurial Studies with credit offered by the Business and Economic Faculty.
Universiti Putra Malaysia (UPM)	Entrepreneurship is one of the major areas for Bachelor of Business Administration with credit offered by the Economic and Management Faculty. It is also one of the research areas for Master's and Doctoral degrees offered by the English Studies Faculty. Small Business Development Centre
Universiti Sains Malaysia (USM)	Entrepreneurship is a minor subject in the Bachelor of Management course offered by the Centre of Management Studies. Centre for Policy Research (SMEs Research Group)
Universiti Teknologi Malaysia (UTM)	Entrepreneurship and Marketing is one of the elective subjects for Bachelor of Management (Marketing) with credit offered by the Human Resource Development Faculty. It is one of the research areas in Master's and Doctoral programmes.
Universiti Teknologi MARA (UiTM)	Entrepreneurship is a core subject in all diploma courses except for the Business Study Diploma. Malaysian Entrepreneurship Development Centre (MEDEC)
Universiti Utara Malaysia (UUM)	Basic entrepreneurship is a core subject in the university. Entrepreneurship on the other hand, is a core subject for all programmes under the Business Management Faculty except for the Bachelor of Entrepreneurship with credit. Apart from that, it is also a core subject for Bachelor of Tourism Management with credit and the Bachelor of Educational Management. Entrepreneurial Development Institute
Politeknik, KPTM	Entrepreneurship is compulsory for commerce students Co curriculum module is a compulsory for all students, and entrepreneurship is one of the chapters incorporated in the module. Entrepreneurship is offered as elective module for all students

Source: Adapted and assimilated from Norasmah *et al.*, 2008

Table 6.2 above illustrates that many universities are now offering courses in entrepreneurship and/or small business. Most of these courses take place within, or as an adjunct of, the education system. However, in many cases, the entrepreneurial environment and business development are not supported by university administration (Mahmood and Ali, 2001). The purpose of this study is, therefore to explore the level of entrepreneurial tendencies among polytechnic students and the internal environment of these institutions. This environment includes the cooperation, networking, and support between institutions both public and private. In addition, most of the Malaysian universities own entrepreneurial development courses and entrepreneurship-related clubs and societies. Incubator centres that encourage development of entrepreneurship among graduates are available in some universities and colleges. Consultancy services on entrepreneurial development are also available to assist students in developing their entrepreneurial skills (Chong Siong Choy *et al.*, 2005).

6.5.2.1 The Malaysian Entrepreneurship Development Centre (MEDEC), UiTM

In 1975, the Institute Teknologi MARA (ITM) established the Malaysian Entrepreneurship Development Centre (MEDEC) to help develop entrepreneurship and train the indigenous Bumiputeras. Striving towards similar goals, the National Productivity Centre, in conjunction with MEDEC and the National Economic Research Development Association, has designed and implemented a management training package that proved both popular and successful amongst Bumiputeras (Dana, 2001). Set up specifically for the purpose of: (i) planning and implementing entrepreneurship education; (ii) conducting business consultation and advisory services; (iii) training; and (iv) encouraging research and publication in the field of entrepreneurship (<http://medec.uitm.edu.my>)

6.5.2.2 Co-operative and Entrepreneurship Development Institute (CEDI), UUM

The Co-operative and Entrepreneurship Development Institute (CEDI) or *Institut Pembangunan Keusahawanan dan Koperasi* was originally known as the Centre of Business and Entrepreneur Development or *Pusat Perniagaan dan Pembangunan Usahawan (PPPU)*. CEDI began operations on 1st March 1990. Three years later, on

1st November 1993, it was upgraded to become an institution that could assist the development of entrepreneurial activities and needs of the country. The main objectives of CEDI are as the following: (<http://cedi.edu.my/eng/>)

- To produce student entrepreneurs based on acquired knowledge through student business programmes known as *Siswaniaga*.
- To act as a consultation and research centre in entrepreneurship and co-operatives.
- To generate income for the university through consultations and research programmes.
- To be an information centre in entrepreneurship and co-operative development.
- To be a networking and international relations hub in entrepreneurship and co-operative development.

6.5.3 Entrepreneurship Education in Malaysian Polytechnics

Historically, the entrepreneurship curriculum was introduced into polytechnics in 1987 as the Small Business Practice (*Amalan Peniagaan Kecil*). The subject was taught twice a week to all final semester engineering students at all polytechnics. The main objective of the curriculum was to introduce the essential aspects of small business practices to polytechnic students. Commerce students did not take the subject because the commerce curriculum itself covered aspects of management and business. To improve and expand the content to focus more on entrepreneurship, in 1992 the Fundamentals of Entrepreneurship course was designed and available to students on all engineering courses in Malaysian polytechnics (Baharu bin Kemat, 1994).

Entrepreneurship is one of the modules Business Studies programs offered to all commerce students. Similarly, Entrepreneurship is also integrated into the co-curriculum structure designed for students studying subjects other than business. A thorough review of the entrepreneurial studies curriculum was completed in 2006. New approaches and enterprising elements were embedded into the new curriculum to make the teaching, delivery, and learning atmosphere more interesting and attractive to non-business recruits. The newly reviewed curriculum was officially implemented in June 2007. However, the course is an elective module for all non commerce students.

Although the curriculum content for this non-business learner course is slightly different than that structured for Business courses, the important elements and essence of entrepreneurial studies remain similar to its ‘bigger brother’ course. It includes: Introduction to Entrepreneurship, Entrepreneurial Issues, Inculcating Entrepreneurial Culture, Generation of Entrepreneurial Ideas and Opportunities, Basic Management, Basic Marketing, Financial Management, Business Proprietary Establishment and Procedures and Business Planning (Azhari, 2008).

In addition, the elective entrepreneurship module offered to all students consists approximately in content as stated above. It is anticipated that students will develop an interest in venturing into business or working on their own when they complete their studies. The purpose of the Co-curriculum module is to create an awareness of entrepreneurship amongst polytechnic students. This module will be perceived in detail during the study from the perspective of objective, content and implementation.

6.5.3.1 The Roles and Importance of Entrepreneurship as a Subject in Polytechnics

Entrepreneurship as a subject in polytechnics aims to give students the exposure in developing their skills and interest in business. In this rapidly changing world, students need to be able to continually discover and exploit opportunities (beyond existing competencies) if they are to survive and prosper after graduation. A student needs to have an instinctive sense of awareness instilled in him or her so they can comprehend the why? when? and how? some people are able to discover opportunities and make successes out of them, so they can do likewise.

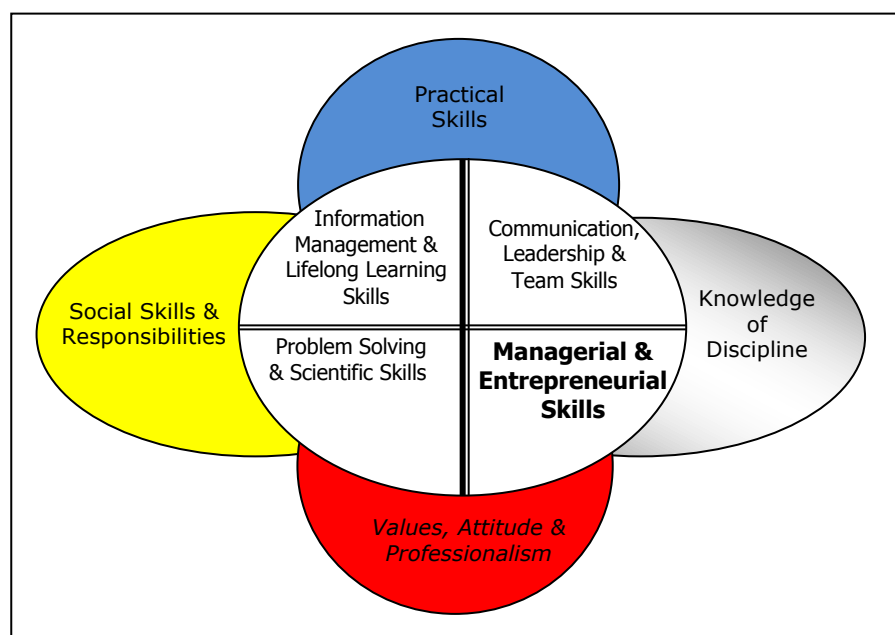
The knowledge acquired from learning will become important when they leave their polytechnic. Prior knowledge of a particular field provides individuals with the capacity to recognise certain opportunities (Shane, 2000) and the promise of financial reward “switches on” an individual’s “motivated propensity” to discover that opportunity (Kirzner, 1979). It appears that prior knowledge generates an intrinsic motivation to discover opportunities. Shane (2000) found that individuals who have developed particular knowledge were more likely to discover entrepreneurial opportunities in response to a given technological change. The previous study by Kolvereid and Moen (1997) found that as compared to other students, those who have taken a major in entrepreneurship revealed greater interest in becoming entrepreneurs

and these students acted more entrepreneurially than other business students in taking up the challenge to start up a new business. Charney and Libecap (2000) reported that entrepreneurship graduates were 11 percent more likely than other business school graduates to own their own business. Entrepreneurship should be developed as a subject in higher education as it clearly plays an important role in cultivating students' entrepreneurial flair.

6.5.3.2 Malaysian Qualification Framework (MQF)

In Malaysia a unified system of qualifications is designed by all educational and training institutions. These include: colleges, universities, vocational institutions, professional organisations and other higher educational institutions in both public and private sectors, as well as training in the workplace and overarching life skills. This unified system of qualifications was known as the Malaysia Qualification Framework (MQF) (Jailani Md. Yunos *et al.*, 2006). Most of the HEI's in Malaysia teach entrepreneurship as a compulsory course, module or subject in the spirit of the MQF as directed by MOHE. MQF was launched by MOHE as a guidance system in curriculum development. The universities interpret these guidelines according to their own surroundings and abilities. The Malaysian Qualifications Framework also outlines the Managerial and Entrepreneurship Skills as one of the eight learning outcome domains that must be in every programme accreditation (see Figure 6.2).

Figure 6.2 MQF's Eight Domains of Programme Learning Outcomes



Source: Abu Bakar, 2007

Figure 6.2 above shows entrepreneurship skills are part of every domain in every learning outcome of the programme. As student achievements are measured by learning outcomes, students should be able to demonstrate entrepreneurial as well as managerial skills. Entrepreneurial mindsets and skills are best promoted through learning-by-doing and experiencing entrepreneurship practically through projects and activities.¹⁶ In fact, all types of educational programmes contribute to the experience of becoming an entrepreneur. Education at all levels includes experiences that help students see opportunities and possibilities. It can be a part of any topic, module or course (JPPKK, 2008).

6.5.3.3 Polytechnic-Government-Industry Triangulation

In the Ninth Malaysian Plan, the government will increase collaboration between the public and private sector, particularly in the areas of Research and Development (R&D), human capital development and the fulfilment of socioeconomic objectives with respect to poverty eradication, equity and employment restructuring (Malaysia, 2006). The SME-University Internship programme was one of the initiatives which was created to instil the necessary entrepreneurship characteristics among university students and to garner students' interest in business by creating job opportunities for local university graduates (Bitara, Bil. 3/ 2008). In addition, DPCCE explored a potential collaboration with MECD and CIDB in the ICT and construction sectors to facilitate graduate employability. A Graduate Enhancement Scheme is also in the pipeline, targeted at all higher education graduates. Through this scheme, the graduates will get an opportunity to hone their entrepreneurial skills as well as acquire and reinforce industry specific knowledge, skills and competency (Industry Dialogue, 2008).

6.6 A Conclusion

In recognition of the Ministry Of Entrepreneurship Development and Co-operative's (MECD) long-term plan, that is to say becoming the country's centres of excellence for entrepreneurial development, the Ministry of Higher Education eventually decided that Entrepreneurial Studies should be made compulsory for all students in polytechnics.

¹⁶ Commission of the European Communities.

Entrepreneurship as discussed above provides a space and facilities for Bumiputera to get involved in entrepreneurship. Important provisions, such as financial and training programmes, will surely contribute towards achieving the visionary objective of Malaysia being a developed nation in 2020. The education system has become a mechanism for nurturing younger generations' entrepreneurial tendencies with those youngsters eventually becoming successful entrepreneurs. It appears that while there is some support for entrepreneurship development both from the government and from the educational institutions, lecturers and students still question the effectiveness of the programmes. This will be further explored by empirical investigation as discussed in the next chapter.

CHAPTER 7
GENERAL ENTERPRISING
TENDENCY VERSION 2 (GETv2) TEST

7.1 Introduction

Chapter Seven focuses on the quantitative part of the study. It begins with the data analysis process, and ends by discussion of the findings. The second part of this chapter focuses on the GETv2 Test to perceive students' tendency after learning the entrepreneurship module in polytechnics. In terms of methodology, this part ultimately triangulated in a data collection method as suggested by Denzin and Lincoln (1978). This is in line with Eisenhardt (1989: p.538) who suggests quantitative evidence can indicate relationships which may not be salient to the researcher. The way the two are combined makes it possible to utilise the advantages of each method during the stages of planning, gathering data and analysis, in order to provide a response to the questions of the research (Yin, 1994).

7.2 Data Analysis and Interpretive

7.2.1 Demography Profile

For the purpose of this study, the discussion focuses more on the effectiveness of embedding entrepreneurship education to non commerce students, however the commerce student tendency towards entrepreneurship was used as the role model for the implementation of entrepreneurship education in the polytechnic system. For instance, the alumni survey questioned the students about their personal characteristics (i.e., birth, gender, high school graduation date and ethnicity), educational and employment history, new venture activity, experiences with technology transfer and perceptions of the Berger Entrepreneurship Program (Charney and Libecap, 2000).

7.2.2 Breakdown and Distribution of Respondents by Polytechnic, Department, Semester, Level, Gender and Age

In overall, 506 respondents were involved in this survey which represented about 92 percent out of the 540 samples initially targeted. The analyses and findings of the study

are based on the 506 valid cases who responded to the survey questionnaire. Table in Appendix 3 shows the breakdown and the distribution of respondents by polytechnics, departments, semester, level, gender and age. There are five polytechnics involved in the study excluding Shah Alam Polytechnic which was used as a pilot study.

The Sultan Haji Abdul Halim Muadzam Shah Polytechnic (MAS) and Kota Kinabalu Polytechnic (PKK) contributed the highest percentage of respondents amongst participating polytechnics at 28.1 percent and 21.3 percent respectively, with Ungku Omar represented at 20 percent. Kota Bharu Polytechnic was reported with 15.4 percent of respondents and 15.2 percent for Port Dickson Polytechnic. The total percentage of the Engineering stream respondents is 42.3 percent while the remaining 47.8 percent and 9.9 percent were represented by Commerce and Hospitality respondents respectively. A list of Malaysian polytechnics is illustrated in Appendix 4.

From the valid total number of respondents in this study, 38.5 percent of the respondents were male and 61.5 percent were female. Females dominated as the highest number of respondents in the Commerce stream at 83.5 percent while 58.6 percent of male respondents were in Civil Engineering and 70.4 percent in the Mechanical Engineering stream. Comparing the breakdown by semester, 28.1 percent were respondents from 6th semester while 39.1 percent represented 4th semester. The remaining students are in the semester 1 (12.1 percent), semester 2 (4.9 percent), semester 3 (5.5 percent) and semester 5 (10.3 percent)

Furthermore, the table shows the breakdown of respondents by age group. Over 70 percent of the respondents in this study were from the group aged 20 and above and 18.4 percent were aged below 20 years. The age range of students enrolled at the Malaysian polytechnics in this study is between 19 to 25 years old. Appendix 4 shows that Diploma students were represented by the highest number of respondents of 51.8 percent compared to other certificate students at 41.8 percent.

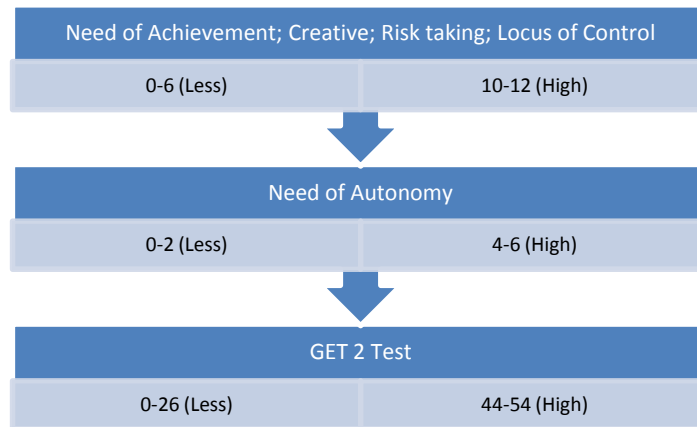
7.3 Findings and Analysis of General Enterprising Tendency version 2 (GETv2) Test

7.3.1 General Enterprising Tendency version 2 Test: Mean Score

This section discusses the General Enterprising Tendency version 2 Test. It covers relevant independent variables where respondents were asked to make their own choice

of responses as they perceived appropriate. The range of responses ranged between score 1 (tendency to agree) and score 2 (tendency to disagree) or vice versa. Table 7.2 below exhibits the guidelines set up for scoring of the GETv2 Test. The discussion of the results will refer to the table as a guideline. See Appendix 2 for the answer sheet provided by the GETv2 Test.

Table 7.1 GETv2 Test Guideline for Analysis



Source: Durham University Business School (1988)

The table above shows how the GETv2 Test is used to measure the entrepreneurial tendency amongst respondents. Table 7.2 below shows the overall findings of the GETv2 Test.

Table 7.2 Mean and Standard Deviation

	Need for Achievement	Need for Autonomy	Creative Tendency	Calculated Risk Taking	Locus of Control	General Enterprising Tendency
Valid	506	506	506	506	506	506
Missing	0	0	0	0	0	0
Mean	5.42	3.83	6.16	5.20	4.91	25.53
Std. Deviation	1.839	1.361	1.790	1.729	1.765	4.628
Minimum	0	0	1	1	1	13
Maximum	12	6	12	11	11	47

Note: Range Of Responses from 1 = Low to 12 = High score for all characteristics excludes need of autonomy (1-6) and GETv2 Test (1-54).

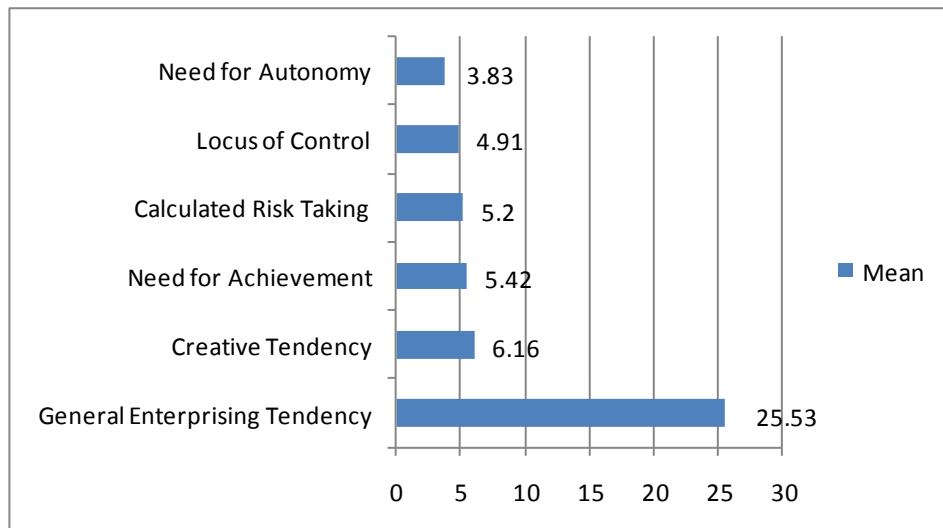


Figure 7.2 Mean and Standard Deviation

Figure 7.2 concisely displays the differences in entrepreneurial tendency among participating respondents regarding entrepreneurship education in polytechnics. In this particular analysis, reporting is made based on the mean score between entrepreneurship characteristics.

Figure 7.2 above shows the comparison of mean and standard deviation for need of achievement, need for autonomy, creativity, risk taking and locus of control. The mean difference for creativity at 6.16 is considered to be significantly higher than the mean score for need of achievement at 5.42, calculated risk taking at 5.2 and locus of control at 4.91 which is the lowest score in this study. However, the mean score for need of autonomy is considered better due to the highest score for this characteristic being 6 (Table 7.2). The lower score in all characteristics contributes to the results of the GETv2 Test at 25.53, which is within the target. This result indicates that the majority of polytechnic students had a lower propensity to be entrepreneurs. It implies that the tendency of polytechnic students is less enterprising and they prefer working under supervision after graduation (Caird, 2008b). This result is in line with a study of 76 full and part-time MBA students at the University of Surrey by Kirby (2004) who found that the students had lower performance scores on all of the measures, revealing a somewhat lower propensity to be entrepreneurial. A study by Caird (1991) is shown in Table 7.3 below.

Table 7.3 Comparing the General Enterprise Tendency of a Sample of MBA Students, Business Owners/Managers and Lecturers/Trainers

Group	Need for achievement	Autonomy	Creativity	Calculated risk taking	Locus of control	Total Score
Students	12 ^a	6 ^a	12 ^a	12 ^a	12 ^a	54 ^a
Business owners/ managers	9	3.4	8.2	8.3	8.5	37.6
Lecturers/ trainers	9.98	4.1	8.7	8.7	9.5	41
	8.9	4.1	8.5	8.6	8.2	38.3

Note: ^aMaxima

Sources: MBA Students-Survey; Business owners/managers and lecturers - Caird (1991)

Table 7.3 above, shows that Caird (1991) in her earlier study found that business owner/managers score higher on measures of enterprising tendency than teachers, nurses, clerical workers, civil servants and lecturers and trainers. This finding was supported by Koh (1996) who claimed that entrepreneurs score higher than non-entrepreneurs on enterprising tendencies score. The result from the table above was compared with polytechnic students to perceive the result between the groups in using the similar test. It is shown in Table 7.4 below.

Table 7.4 Compare Mean with the Caird Study

Group	Need for achievement	Autonomy	Creativity	Calculated risk taking	Locus of control	Total Score
Cairds students	12 ^a	6 ^a	12 ^a	12 ^a	12 ^a	54 ^a
	9	3.4	8.2	8.3	8.5	37.6
Polytechnic students	5.42	3.83	6.16	5.20	4.91	25.53

Note: ^aMaxima

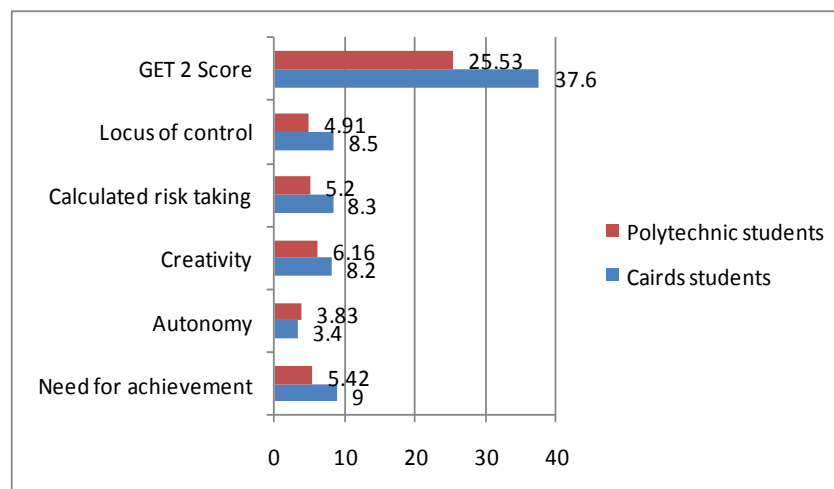


Figure 7.3 Compare Mean with the Caird Study

Figure 7.3 above shows there is a diverse score between both studies with polytechnic students scoring lower in all categories, except the need of autonomy, polytechnic students are higher (mean=3.83) than Caird's students (mean=3.4). In general, the GETv2 Test score shows the polytechnic student is less enterprising compared to the Caird study which shows occasional enterprise with the mean score at 25.53 and 37.6 respectively. Indeed, this result gives important impact to MoHE, especially polytechnics, in planning and developing entrepreneurship education in the institutions. Regarding these issues, the reformation of curriculum and pedagogy is important. As suggested by Kirby (2004) all of these characteristics or attributes can be developed in them, but not by using the more traditional, pedagogic teaching methods and styles nor by teaching the standard functional competences traditionally taught in business schools. He added there needs to be a very clear transformation in not only what is taught but how it is taught.

This implies that the pedagogical issues should be tackled in order to produce an effective teaching method in entrepreneurship. In the entrepreneurship education perspective, it might be concluded that the majority of students are not embedded with enterprising knowledge, skills and attributes during their study in polytechnics. The entrepreneurship modules, activity and programme executed throughout polytechnics are unable to provide students with entrepreneurial tendencies. It implies that the objective of the entrepreneurship module and the activity is within the target. The further analysis was discussed to explain the students' weaknesses and give a suggestion in such a way that entrepreneurship should be developed through education in order to identify empirically the extent to which current entrepreneurship education influences polytechnic students' tendency in business.

7.3.2 GETv2 Test: Students

The discussion below focuses on the GETv2 Test analysis of polytechnic students' demography including courses, level of study, gender, work experience, business intention, family background, and age.

7.3.2.1 GETv2 Test and Student Courses

In general, courses in polytechnics can be identified into two main groups; engineering or non-engineering. However, for the purpose of this study the GETv2 Test score was examined based on commerce and non-commerce students. This is to perceive whether courses the variables that influence students' in entrepreneurship tendency or otherwise. To analyse this, the table below shows details of the results.

Table 7.5 GETv2 Test and Student Courses

GETv2 Test Score	Course Enrolled				Total
	Civil Engineering	Electrical Engineering	Commerce	Hospitality	
0-26	64 55.2%	48 49.0%	154 63.6%	33 66.0%	299 59.1%
27-43	51 44.0%	50 51.0%	88 36.4%	17 34.0%	206 40.7%
44-54	1 .9%	0 .0%	0 .0%	0 .0%	1 .2%
Total	116 100.0%	98 100.0%	242 100.0%	50 100.0%	506 100.0%

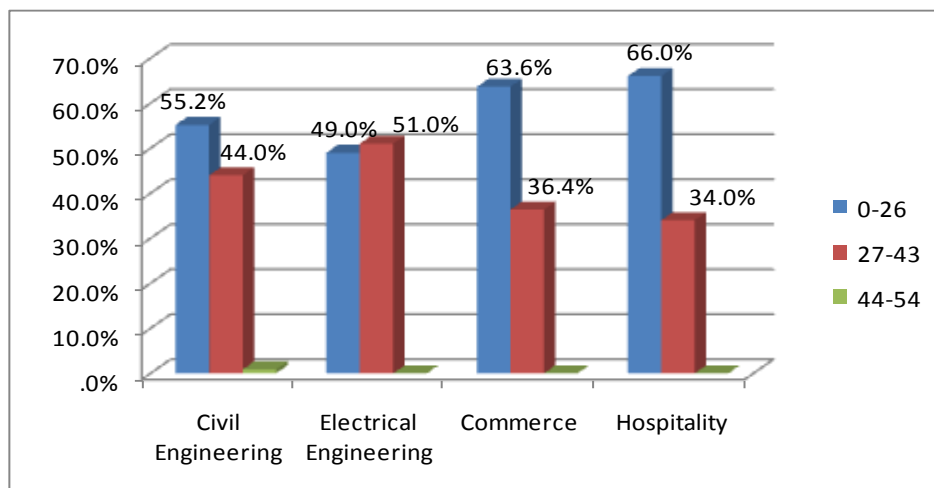


Figure 7.4 GETv2 Test and Student Courses

Table 7.5 above illustrates the inter-correlations among the GETv2 Test and the courses taken by polytechnic students. It shows that the majority, 59.1 percent, of the students from all courses are *less* enterprising with the score in the lower band (0-26). Unfortunately, results indicate that commerce students' score in the lower band at 63.6 percent. This indicates that commerce students, also, are not embedded with entrepreneurial characteristics. Theoretically, their score is supposed to be higher because this group of students were exposed to entrepreneurial knowledge provided in the compulsory module, P3117 Entrepreneurship and R2001 Co-curriculum module. This finding contradicts Noel (2000) who found that entrepreneurial intentions were stronger among students with entrepreneurship majors. He added that entrepreneurship majors have higher intentions to start a business within two to five years.

The findings also show students from the other courses score in the lower band: civil engineering at 55.2 percent, electrical engineering at 49 percent, and hospitality at 66 percent. Table 7.5 above also shows that engineering students are *occasionally* enterprising with the score at 27-43, led by electrical engineering at 51 percent and civil engineering at 44 percent. Commerce and hospitality students only score at 36.4 percent and 34 percent respectively. One of the civil engineering students shows that he/she has a tendency to start up a project and has *high* entrepreneurial skills by scoring in the higher range at 44-54. Therefore, non engineering courses become an important group needing to be developed in their tendency towards entrepreneurship, such as skills and knowledge. This is in line with Hynes (1996) who suggests enterprise education should be incorporated into the non-business disciplines such as engineering and science. This result was also supported by Levenburg *et al.*, (2006). In their study, they failed to reveal a major difference between business and non-business of interest in entrepreneurship among US university students.

Hence, the non-business students need to be developed in management and business knowledge as part of their entrepreneurship programme. For instance, entrepreneurship education for non business students should incorporate a relevant field at an introductory level; the topics include general management, marketing and finance (Brand *et al.*, 2007: p.61). In addition, it can be highlighted that a majority of the polytechnics students are not highly enterprising with the present entrepreneurship education including curriculum and co-curriculum modules, activities and programme being implemented in the institutions. In other words, there is no entrepreneurship

tendency among polytechnics students pertaining to the courses and it might be concluded there is no different between the courses and the GETv2 Test in Malaysian polytechnics. The reason “why” it happened will be explored and discussed in the qualitative study in the next chapter.

7.3.2.2 GETv2 Test and Level of Study

The level of study categorised as certificate and diploma respondents in polytechnics. Overall, there are 244 and 263 respondents for certificate and diploma respectively. The findings show as Table 7.6 and Figure 7.5 below.

Table 7.6 GETv2 Test and Level of Study

Score	GET2 Categories	Level Of Study		
		Certificate	Diploma	Total
0-26	Less	141	158	299
		57.80%	60.30%	59.10%
27-43	Occasionally	102	104	206
		41.80%	39.70%	40.70%
44-54	High	1	0	1
		0.40%	0.00%	0.20%
Total		244	262	506
		100.00%	100.00%	100.00%

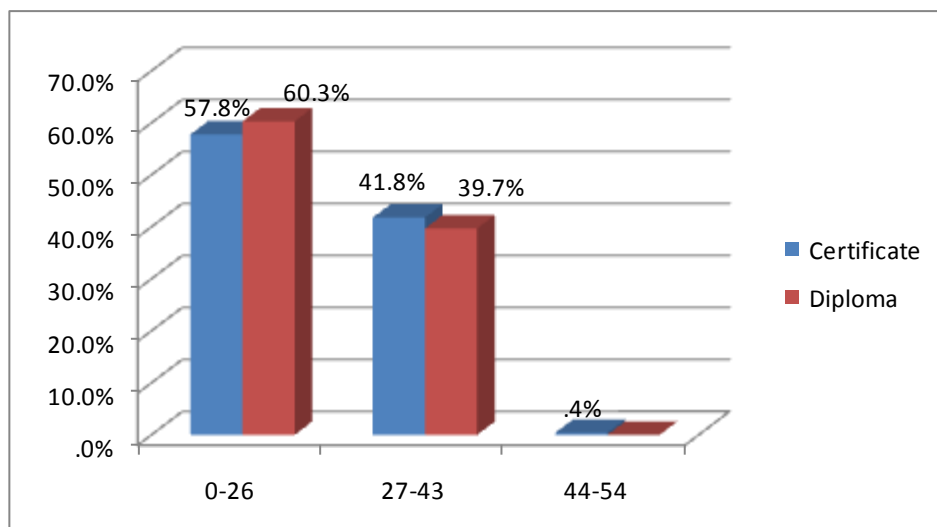


Figure 7.5 GETv2 Test and Level of Study

Table 7.6 above recorded a certificate respondent has a slightly different entrepreneurship tendency score at 41.8 percent compared to a diploma respondent score at 39.7 percent in the similar band (*occasionally*). Certificate students also recorded in the *high* score of entrepreneurial tendency of 0.4 percent. This finding indicates that a certificate respondent is more interested in entrepreneurship compared to diploma respondents. One of the reasons might be the previous knowledge of the certificate respondents' group is still fresh compared to diploma respondents. This finding is confirmed by the GETv2 and semester offer test as portrayed in Table 7.7 below.

Table 7.7 GETv2 Test and Semester

	1st Semester	2nd Semester	3rd Semester	4th Semester	5th Semester	6th Semester	Total
0-26	16	16	19	124	28	96	299
	26.2%	64.0%	67.9%	62.6%	53.8%	67.6%	59.1%
27-43	45	9	9	73	24	46	206
	73.8%	36.0%	32.1%	36.9%	46.2%	32.4%	40.7%
44-54	0	0	0	1	0	0	1
	.0%	.0%	.0%	.5%	.0%	.0%	.2%
Total	61	25	28	198	52	142	506
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

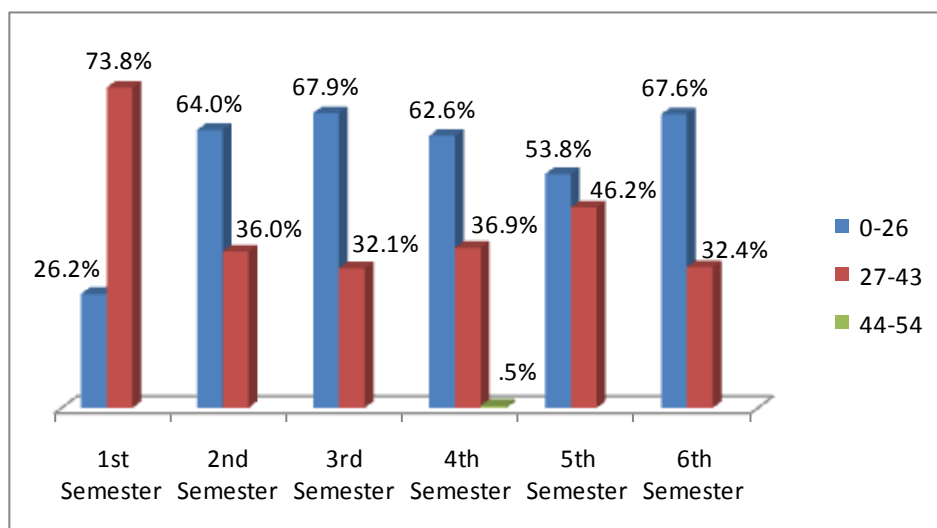


Figure 7.6 GETv2 Test and Semester

Figure 7.6 above recorded that respondents in the first semester are more *occasionally* enterprising. The score of 73.8 percent is diversely different between the other semesters in this range, with the score between 30 to 50 percent only. In other words, it could be concluded that there is a difference of the GETv2 Test and the semester of respondents. This result implies that entrepreneurship should be introduced in an early stage, for instance in the first semester.

7.3.2.3 GETv2 Test and Gender

Appendix 3 shows the breakdown of respondents by gender. There are female, 61.5 percent (311) and male, 38.5 percent (195) respondents' respectively. The result of the GETv2 Test is illustrated below:

Table 7.8 GETv2 Test Score Base on Gender

GET2 Score	Gender		Total
	Male	Female	
0-26	108	191	299
	55.4%	61.4%	59.1%
27-43	86	120	206
	44.1%	38.6%	40.7%
44-54	1	0	1
	.5%	.0%	.2%
Total	195	311	506
	100.0%	100.0%	100.0%

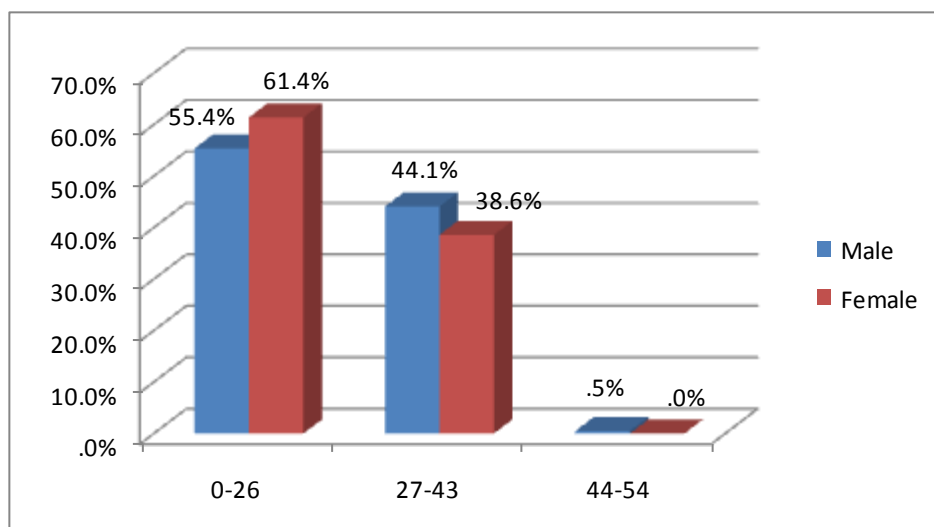


Figure 7.7 GETv2 Test Score Based on Gender

Figure 7.7 above recorded most of the respondents score in the lower band, which is male 55.4 percent and female 61.4 percent, respectively. The data also shows that male respondents have some enterprising tendencies towards entrepreneurship, 44.1 percent compared to female at 38.9 percent. This finding is in line with past studies where male students tend to have a stronger entrepreneurship aspiration than females (Kourilsky & Walstad, 1998; Wilson *et al.*, 2004). This means that women need further encouragement to consider an entrepreneurial career and the absence of entrepreneurial experience among women should not be a de-motivating factor towards entrepreneurship (Chong Siong Choy, 2005). This finding's study was supported by Marlino and Wilson (2003). They found that there is a clear different in gender towards entrepreneurial interest, with girls less likely (42 percent extremely or somewhat interested) than boys (58 percent) to be interested in starting/owning their own business. It may be concluded that there is a slight difference between gender in the GETv2 Test score in polytechnics.

7.3.2.4 GETv2 Test and Work Experience

The respondents experience was also examined to investigate whether there is any significance in the relationship between the respondents' work experience and their tendency towards entrepreneurship.

Table 7.9 GETv2 Test and Work Experience

	Yes	No	Total
0-26	234	65	299
	60.6%	54.2%	59.1%
27-43	152	54	206
	39.4%	45.0%	40.7%
44-54	0	1	1
	.0%	.8%	.2%
Total	386	120	506
	100.0%	100.0%	100.0%

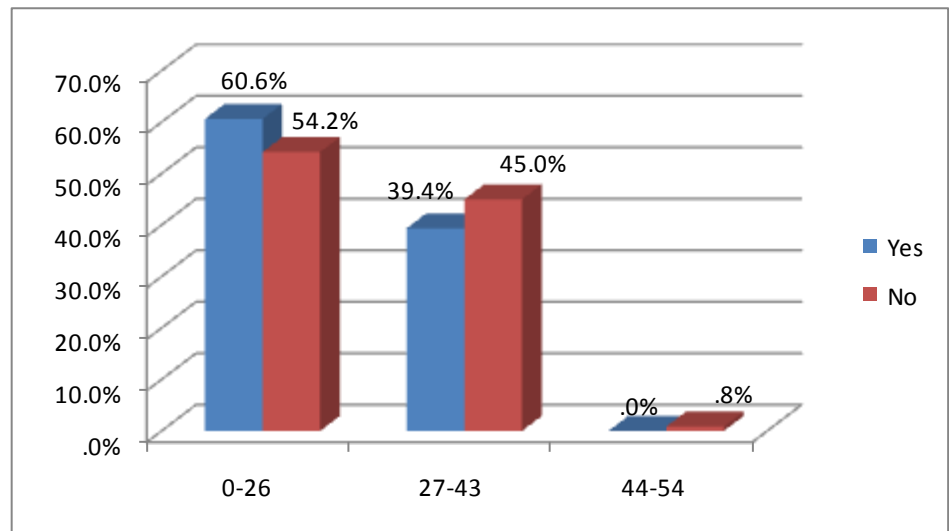


Figure 7.8 GETv2 Test and Work Experience

Table 7.9 above shows that 73.6 percent of the respondents are experienced in a work environment before studying in the polytechnic, see Figure 7.8. It also shows the majority of the experienced respondents score in the lower band at 60.6 percent. Unfortunately, it is higher than respondents with no experience with the score at 54.2 percent. Results also indicate that respondents without experience have some enterprising characteristic compared to experienced students with a score of 45 percent and 39.4 percent respectively. It might be concluded that experience is not the factor that influences entrepreneurial tendency in polytechnics and there is no relationship between polytechnic student working experiences and the GETv2 Test score. They might prefer to work in employment and prefer to support enterprise instead of being a manager (Caird, 2008b). This finding is in contrast to the previous study by Vesper (1990) who found that those experienced in working are supposed to be more entrepreneurial compared to non experienced respondents.

7.3.2.5 GETv2 Test and Business Intention

The demography also covers the question of whether polytechnics students have the intention to do a business or not. The findings are recorded below:

Table 7.10 Intention to Venture into business I

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	202	39.9	39.9	39.9
No	304	60.1	60.1	100.0
Total	506	100.0	100.0	

Table 7.10 above shows that 60.1 percent of the respondents were not interested to venture into business and the others, 39.9 percent, shows that they are interested to be entrepreneurs. The GETv2 Test is described as follows:

Table 7.11 Intention to Venture into Business II

		Intention to venture into business		
		Yes	No	Total
0-26	Less	131	168	299
		64.9%	55.3%	59.1%
27-43	Occasionally	71	135	206
		35.1%	44.4%	40.7%
44-54	High	0	1	1
		.0%	.3%	.2%
Total		202	304	506
		100.0%	100.0%	100.0%

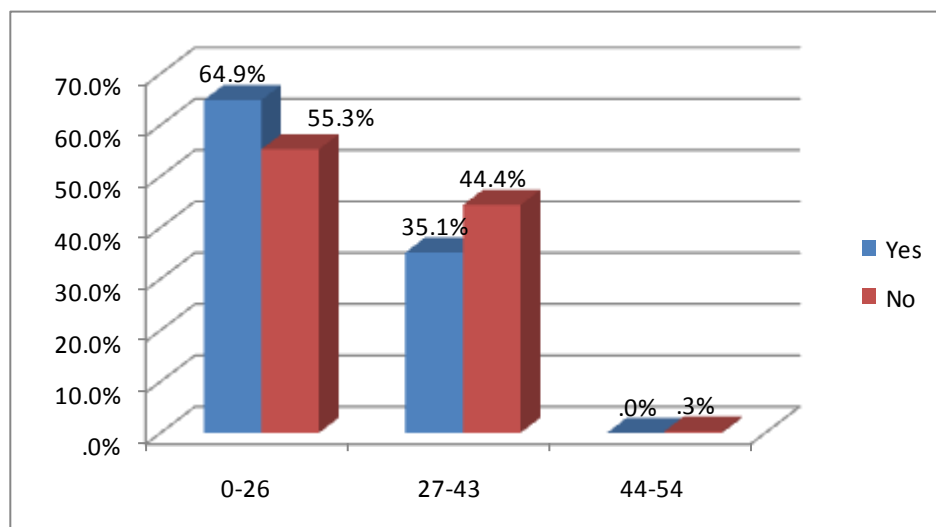


Figure 7.9 Intention to Venture into Business

Figure 7.9 above shows that students, whether interested or not to be entrepreneurs, were recorded as *less* enterprising. Even, the respondents who are interested in a business venture score in the lowest band, 64.9 percent. This is in line with the previous study who found that not many respondents are interested to get involved full time as entrepreneurs after completion of their studies. The assertion refers to the research which shows that only 33.9 percent say they are ready to choose entrepreneurship as a career, while 66.1 percent of respondents say that they are not interested (Sarimah Che Hassan, 2001). Consequently, it may be concluded that there is no obvious difference between intention to venture into business and the GETv2 Test.

7.3.2.6 GETv2 and Family Background

The respondents' family backgrounds may be a factor influencing students' tendency towards entrepreneurship. The result of the study shows that:

Table 7.12 GETv2 Test and Family Background

Score	Yes	No	Total
0-26	131	168	299
	63.0%	56.4%	59.1%
27-43	77	129	206
	37.0%	43.3%	40.7%
44-54	0	1	1
	.0%	.3%	.2%
Total	208	298	506
	100.0%	100.0%	100.0%

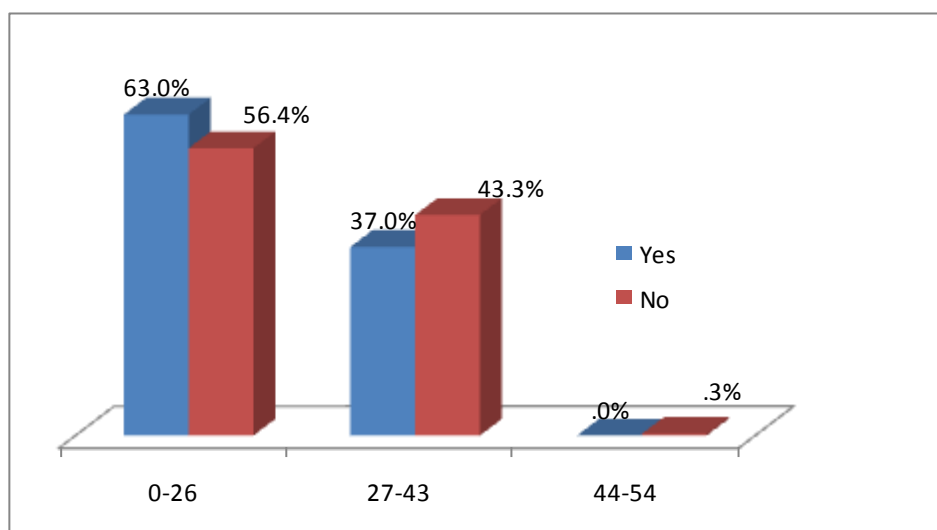


Figure 7.10 GETv2 and Family background

Figure 7.10 above reveals that students, whether from a business family background or not, are recorded as *less* enterprising. Indeed, respondents from a business family background score in the lowest band 64.9 percent. It illustrates that there is no difference between family background and the GETv2 Test. This is further discussed in Chapter 9.

7.3.3 GETv2 Test: Lecturer

To verify the effectiveness of the pedagogy, polytechnic lecturers were also tested via the GETv2 Test to perceive their tendency towards entrepreneurship. There are 113 lecturers from 3 polytechnics involved in the study. The findings are recorded below:

Table 7.13 GETv2 Test and Lecturer

	NAch	NAuto	Creative	RiskT	LoC	GETv2
Valid	113	113	113	113	113	113
Missing	0	0	0	0	0	0
Mean	7.19	2.78	6.69	6.61	7.14	30.42
Std. Deviation	1.836	1.208	1.763	2.140	1.630	5.208
Minimum	3	0	2	0	2	19
Maximum	11	6	11	12	10	43

In general, the result in the table above recorded a mean score for the GETv2 Test of 30.42, which is higher than the students' score of 25.53. This means that lecturers in polytechnics are still below the target of the higher score in the GETv2 Test, which is 44 onwards. See the guideline provided in Table 7.1. In detail, this finding was compared with previous study, as shown below.

Table 7.14 Compare mean with the Caird study

Group	Need for achievement <i>12^a</i>	Autonomy <i>6^a</i>	Creativity <i>12^a</i>	Calculated risk taking <i>12^a</i>	Locus of control <i>12^a</i>	Total Score <i>54^a</i>
Cairds students	9	3.4	8.2	8.3	8.5	37.6
Polytechnic students	5.42	3.83	6.16	5.20	4.91	25.53
Polytechnic lecturer	7.19	2.78	6.69	6.61	7.14	30.42

Table 7.14 above indicates that the polytechnic lecturer is *occasionally* enterprising. The lecturers' score is higher compared to students in all categories: need for achievement (7.19 percent); creative thinking (6.69 percent), risk taking (6.61 percent) and internal locus of control (7.14 percent). Students score in need for autonomy is higher than lecturers at 3.83 percent compared to the lecturer at 2.78 percent only. The table above also shows a previous study by Caird (1991), the score is better than the test for the lecturer. This finding indicates that polytechnic lecturers should be trained to prepare them with skills, knowledge and attributes of entrepreneurship. This issue are explored further in Chapter 9.

7.4 Conclusions

The results presented clearly suggest that polytechnics do not do well in succeeding in presenting entrepreneurship as an attractive alternative to dependent work. In this investigation, the aim was to assess whether the polytechnic students are enterprising or not after they learn the modules provided in polytechnics through curricula and co-curricular activities. Accordingly, they were exploring whether they are incorporated or not with the entrepreneurship characteristics, with five characteristics chosen in the study provided in the GETv2 Test. One of the most significant issues which should be discussed is the influence of students' profiles to the GETv2 Test score. For instance, students course of study, semester, level of study, gender, age, parent level of education, whether parental involvement in business or not, students work experience and their intention to venture into business. Six demographic factors were analysed to perceive to what extent these factors influence their tendency towards entrepreneurship. Even with the test running in the various perspectives, this study has shown the result remains the same, which is that the majority of polytechnic students are not enterprising and not embedded perfectly with entrepreneurship characteristic. These findings were used as an indicator for the qualitative study in the next chapter.

CHAPTER 8

QUALITATIVE STUDY: RESEARCH ANALYSIS AND FINDINGS

8.1 Introduction

This chapter will discuss the qualitative data of the study. The first section, the introduction will explain the general findings from the interviews with top management, content experts, industry people and students. Next, the discussion with a group of lecturers and students will be reported. The research findings are segregated according to groups, themes and categories. These include the role of Malaysian government, the current development of entrepreneurship in polytechnics, the entrepreneurship curriculum in polytechnics, pedagogical methods, training, the challenge of entrepreneurship education in polytechnics and the challenges it presents for the Ministry of Higher Education. These findings will form the basis for discussion in the following chapter.

8.2 Entrepreneurship Education: Government Policy and Management

8.2.1 National Policy and Entrepreneurship Education

In the 21st century interest in entrepreneurship has been activated for several reasons; entrepreneurship has become an important instrument for solving the problem of unemployment. It has been used to eradicate poverty, and as a career option for graduates. Therefore, it is the time for the Ministry of Higher Education to strengthen entrepreneurship in tertiary education. One of the policies is introduced under the Malaysian Qualification Framework (MQF). This is a framework within which entrepreneurship becomes one of the eight important domains in teaching and learning in higher learning centres. The Director General of DPCCE stated that, “during the reign of the previous Minister of Higher Education (Dato’ Mustapa Mohamed) entrepreneurship was very important to all higher learning institutions including polytechnics”. The Director of Policy Planning Division (PPD) made the following statement in support of this claim:

‘As far as the Minister is concerned, he is very clear that we should be encouraging and putting in place elements of entrepreneurship in our

programme. He has asked us to tie up with the Ministry of Entrepreneur and Co-operative Development (MECD) so that our students can actually benefit from funds provided by other government agencies to encourage entrepreneurship. In that sense the government is actually supporting entrepreneurship elements' (Mgt1:P4)¹⁷

According to this, the higher learning institutions are responsible for executing entrepreneurship programmes in the institutions respectively. Polytechnic directors and heads of department were asked: “Do you have any support/obstacles from the administrators when implementing entrepreneurship programme/activities?.” In general, 90 percent of the top management level acknowledges the view of the PSB Director:

'In line with the government policy regarding entrepreneurship, I personally feel this agenda is very important to the polytechnic. In addition, entrepreneurship is one of the domains in the Malaysian Qualification Framework (MQF)....' (Mgt1:P7)

8.2.2 Support and Funding

This study also found that the administration is fully committed to implementing entrepreneurship in the institutions. For example, the interview with polytechnic heads of departments confirms that they obtain strong support from their directors. However, the majority of the top management agreed that in order to be more productive financial support should come into the picture. They are looking for a budget from the headquarters. This is clear in the following statement by the head of department from Sultan Abdul Aziz Shah Polytechnic (PSA):

'We have some support but it would be better to have a more centralised support from DPCCE. So there should be by Innovation and Entrepreneurship Unit in DPCCE as well if we want to go further. Let them be the coordinator when dealing with agencies like Permodalan Nasional Berhad (PNB)¹⁸ and MECD. If it is done government to government, it would be much easier. Another point is regarding the funding. The fund does not accumulate so I urge people at the headquarters to give their full support so that the fund could be increased if we want more students to get involved and to receive the benefits' (Mgt2:P1)

¹⁷ Respondents codes shows in appendix 6

¹⁸ Permodalan Nasional Berhad (PNB) is Malaysia's biggest fund management company (http://en.wikipedia.org/wiki/Permodalan_Nasional_Berhad)

Two issues emerge from the statements above, firstly the entrepreneurship unit should be established at the headquarters and a certain portion of the budget should be allocated to support the entrepreneurship activity and programme. These issues present a challenge for administrators to review the current entrepreneurship setting in the polytechnic under Ministry of Higher Education.

8.2.3 Collaboration

In order to encourage and nurture entrepreneurship education in Malaysian polytechnics, the study found that all respondents acknowledged a strong co-operation with another agency. Some of the collaboration was practised under the concept of ‘smart partnership’: a collaboration that is strongly encouraged by the government. The partnership aims for the sharing of knowledge and technology between government and industries. Overall, this study identified 80 percent of respondents who said their institution had collaborated with other agencies. There were various reasons for these collaborations such as training needs, funding opportunities and the chance to increase expertise and knowledge. In terms of co-operation with other institutions, this study found that all polytechnics were already engaged in the practice of inviting guest speakers to their institutions. For example:

- POLIMAS have a strong relationship with the Malaysian Industrial Development Authority (MIDA) and Kedah Regional Development Authority (KEDA)
- Sultan Abdul Aziz Shah polytechnic (PSA) had received consultancy advice from the expert of Permodalan Usahawan Nasional Berhad (PUNB) and Small Medium Enterprise (SME) Bank. They also have a long term project with Angkatan Koperasi Kebangsaan *Malaysia* Berhad (ANGKASA).
- Port Dickson Politeknik (PPD) brought in the speaker from the Ministry of Entrepreneur Development and Co-operative Development (*MECD*).
- Kota Bharu Politeknik (PKB) which is responsible as a hub of entrepreneurship for polytechnics has a close a relationship with Kelantan Malay Chamber of Commerce.

- Ungku Omar Politeknik (PUO) has a strong relationship with the Perak State Government and Jaya Jusco Shopping Mall.

Indeed, cooperation with other institutions was necessary to expose polytechnic students and lecturers to alternative sources of information in place of books and traditional teaching methods in the classroom. An interesting finding is that the polytechnic itself is not capable of handling a high level discussion due to their limited jurisdiction. For instance, even Kota Bharu Politeknik (PKB) was assigned as centre of entrepreneurship for all polytechnics; they were not allowed to initiate any memoranda regarding this matter. With his willingness to share the idea, he states that:

'We called MECD last year because at that particular time we were selected as the centre for entrepreneurship and innovation. I was informed that PKB is the centre for entrepreneurship, but I don't really know the true concept. What we did was we contacted MECD to have Memorandum of Understanding (MOU) with them. By right the MOU is between MECD and the ministry or Ministry of Higher Education (MoHE) instead of just a department in PKB. Steps have been initiated to have the MOU but we don't even know our jurisdiction, and as yet it has not happened' (Mgt 2: P3)

This issue was strongly supported by PPD head of department whenever he was asked the question, *"Does your institution have any collaboration, for example Memorandum of Understanding (MOU) with other institutions/agencies or ministries to encourage entrepreneurship education in your institution?"* With no doubt she responds:

'For me, any commitment or agreement should be done at ministerial level not at the institution. There is a lot of regulation and procedures that we have to follow and we also have to get permission from the ministry. What we do is let the authority people do that job and we just receive the direction from them, from the headquarters' (Mgt2:P4).

Both of the above arguments confirm that any collaboration amongst government and external agencies ought to be handled by the Ministry. The DPCCE with its status as a higher body in MoHE should represent the polytechnic in high-level meetings and not the polytechnic itself. This study also found that currently the DPCCE have a close cooperation with the National Institute for Entrepreneurship (INSKEN) as shown below:

'I think National Institute for Entrepreneurship (INSKEN) is there. Recently on entrepreneurship our government allocated 2.5 million for INSKEN programme with Community Colleges and after that we will extend it to the polytechnic. On financial planning we will do that with another

organisation, the Malaysian Financial Planning Council (MFPC). So, more or less one body focuses on finances and the other one focuses on entrepreneurship. These two agencies have collaborated'. (Mgt1:P2)

In addition, the Director of Policy Planning Division stated that 'Currently the Community Colleges sector is embarking with National Institute for Entrepreneurship (INSKEN) and Tabung Ekonomi Kumpulan Usaha Niaga (TEKUN) and they are having programmes to eradicate poverty by pushing the entrepreneurship concept'. In other words, the DPCCE are the responsible agency for handling a mutual cooperation between inter-government agencies.

This study found that the university is further ahead than polytechnics regarding international collaboration on entrepreneurship education. For example professors from UKM stated that his university co-operated with Waseda University, Japan, Essex University, United Kingdom, and Tze Jang University, Shanghai, China in order to develop their international links. Co-operation within UKM and other agencies takes the form whereby students serve as trainee consultants in the firms/SMEs which evolve under UKM's COBLAS project (Consulting Based Learning for ASEAN SMEs)¹⁹ (Mohd Fauzi *et al.*, 2008).

8.2.4 Polytechnic-Government-Industry Triangulation

In general, this study found that the relationship between polytechnics, government agencies and industry plays an important role in providing training provision for both the instructors/lecturers (train the trainers). It enables them to deliver effective delivery methods based on their real knowledge and expertise.

8.2.4.1 The students' competence

The interview with industry people gave a few characteristic that should be embedded in the students. Based on his experience, he underlines the entrepreneurs' characters:

'The students themselves should have mind, thinking as entrepreneurs such as creative mind. To develop this, the exposure to the true case studies on entrepreneurship is important; they will know the good and the bad examples in the real work. Then, they should know how to operate

¹⁹http://www.mohe.gov.my/webkpt_v2/pdf/seminar_pnp/pagi/2-Entrepreneurial.pdf

the computer, especially internet because this is the blue ocean strategies in facing new world challenges.’ (Ind:R1)

In addition, he added “they must know that they are students undergoing industrial training, so ask and ask anything they want to know, without fear. Learn from mistakes and never repeat the same mistakes’. This statement was supported by his colleague:

‘...for me they should have the basic business skills. They have to take a risk, able to make a decision, have a competency to lead, and of course becomes an opportunist to grasp the chance’ (Ind:R2)

8.2.4.2 Industrial Liason

The industry people were asked for their contribution to the society especially in polytechnics. The probing question stated “*Does your company have any collaboration (i.e MOU) or contribution with the Department of Polytechnics, Ministry of Higher Education or with the polytechnic itself?* In response to this issue, the honourable Farid Saad shared his idea as below:

‘My firm has been continuously taking students from various university since 1990. It is part of firm’s corporate social responsibilities, hence not depending on any official collaboration with universities.’

8.2.5 Entrepreneurship Unit

In general, all respondents acknowledge the importance of a special unit to set up, monitor and coordinate all the entrepreneurship activities and programmes in polytechnics. All of the directors and head of departments (100 percent) agreed that the existing unit should be revised and given a new lease of life to accelerate the development of entrepreneurship activity and programmes. All the directors are in agreement that the special unit on entrepreneurship is needed. They acknowledge that PKB was appointed by the ministry as the entrepreneurship hub for all polytechnics and they also admitted they did not know the current progress of the unit, even the Director General of DPCCE. It is more depressing when some of the heads of unit did not notice the existence of the unit as mentioned below:

‘I don’t know. I taught at Ungku Omar Polytechnic (PUO). But I remember these two polytechnics PKB or PUO will be appointed. It doesn’t matter who they are, the important thing is whether the entrepreneurship programme is running or not.’ (Mgt 2:P5)

However, I found that amongst heads of department 60 percent suggested that a special unit should be established in the headquarters. For instance PKB, PPD and PSA head of department. The statement below represents the feelings of polytechnic lecturers on the question of entrepreneurship units. A similar question was put to the top management level about the need for the unit in the head quarters. The Deputy Director General replied that:

'I think when we assign the directors to run the polytechnic, we want them to let the manager manage, want the manager himself with the management to manage the polytechnic.....' (Mgt1:P2).

I tried to probe the issue in a more in-depth way by investigating the views of the entrepreneurship co-ordinator in PKB: the body appointed to handle this matter. She no doubt uncovered what actually happened in this unit, according to her word of mouth:

'...at the beginning it was very successful.....but the problem is we were just appointed, we did not have a formal letter saying that. Then the problems arose with implementation: who wants to handle tasks, which person should be in charge, how do we set up the committee? In other words, we can't take any action such as finding resources and staff. So we have no post, no structure on this unit.....' (PKB:CO:L1).

Indeed, this bold statement above explains all confusion and it was supported by her director in response to the similar question, who added:

'Public Service Department (PSD) not approved. When we ask for the budget they don't approve it. They said the entrepreneurship centre should be located at the headquarters. That's why, when we went to the meeting with MECD, they mentioned that one of the officers from the headquarters was in the meeting every month. When we ask for a post for entrepreneurship, JPA replied that is located at the centre, so that the post is just easily taken off the agenda like that. JPA not approved since last 2 years' (Mgt1:P6).

This matter was brought up in the interview with Policy Development Division Director and he also brought up the similar issue. With his commitment, the issue will move up to a higher level for further action. Here is his statement followed by that of the deputy director general:

'The introduction of the innovation unit and entrepreneurship unit is done not on a formal basis, but on an informal basis. I believe that the setting up

of that unit will spur the interest of our lecturers and staff. We will have that dedicated unit to further develop new programmes to support entrepreneurship. I fully support the setting up of that unit and in 2009 and 2010 DPCCE will be supporting and assisting the public service department, to endorse the official permission of that particular unit with the appropriate staff. It is recognised we are on the right track to encourage entrepreneurship in our system in every institution.’ (Mgt1:P4).

‘So, we have to activate actually, maybe I will discuss with the polytechnics to make sure this unit is running. I think they are a lot of benefit, if we actually activate the unit for both lecturers and students. Because they have the avenue for students to practise there.’ (Mgt1:P2).

Overall, it appears that respondents would welcome a special body at the departmental level. It will be responsible for managing, overseeing and officiating specifically for entrepreneurship activity and programmes in polytechnic educational systems. The bad experiences in PKB are evidence of the importance of this unit establish directly at DPCCE.

The group discussions were accomplished with the polytechnic lecturers from PSA (6 lecturers); PUO (6 lecturers); POLIMAS (6 lecturers); and PPD (6 lecturers). The research findings show that all respondents were in agreement concerning the need for special units to be established at the headquarters to co-ordinate all the activities and programmes in polytechnics. The importance of this unit was to manage any consultation such as inter-ministerial, budget, staffing, courses, training etc which is impracticable to be handled by polytechnics. The constructive ideas are voiced by the statement below:

‘..... I would like to suggest the establishment of such a unit in DPCCE because I do know that PKB as a hub could not work with MECD for so long. Government to Government (G to G) meetings will be a bit hard so to enable us to get funds as all activities needs capital. We stop our entrepreneurship day because we need to fork out our own money, and that leads to some parents giving negative feedback, so that doesn’t coincide with teaching and learning, which will burden the students.....’ (PSA:FG:L1)

8.2.6 Entrepreneurship as a career option

Respondents were asked their views about entrepreneurship as a career option, particularly the question of self-employment after completion of their studies. An example of a simple question designed in the semi-structured interview might be “*Do you think entrepreneurship can be used as a career option for polytechnic students to solve unemployment among the graduates?*” The findings from interviews and focus group discussions show a positive response to this question; 75 percent of the respondents agreed that entrepreneurship might be a career opportunity for students. In this context, entrepreneurship as a career opportunity would allow graduates to be independent and self-employed. It would also provide the opportunity for them to create jobs rather than being dependent on the government or private sector for employment. This vision is one that is shared by CDED and polytechnic directors:

‘They can be self-employed rather than somebody dependent on the state or industries to get a job. If they are well-equipped with entrepreneurship they might be able to create their own job...I believe that students if they are nurtured, will use the knowledge, the skill, not right after graduation but maybe after that, it may be 5 to 10 years after’ (Mgt1: P3)

‘Based on the Malaysian current situation, I agree that entrepreneurship can play a role. We hope that our students are knowledgeable, skilful and able to face the challenge nowadays and in the future’ (Mgt1: P7).

Regarding the nature of entrepreneurship itself as the creation of new ventures, respondents expressed a number of different viewpoints:

‘...actually entrepreneurship is the main thing whenever a student graduates, they don’t want to work with others, they can create a job for people, they have a company, that is why we want to give them this sort of knowledge, for students not all depending on job, but we want them to create jobs. That is one sort of mentality’ (Mgt1:P2).

‘In this case, I would like to emphasise here that our graduates have to be job creators and not job seekers, so, the paradigm should be changed’ (Mgt1:P6; Mgt 2:P5)

In other words, based on the progress of Malaysian economy and development, and taking into account the uncertainty of economic development, the high rate of inflation and high graduate unemployment entrepreneurship has become a useful remedy for the nation. This claim is exemplified by the following comments:

'I don't believe in working with the public sector in the future and the student must be resourceful and reliant on entrepreneurial skill, to be involved in small and medium industries. They can start by running their own businesses or working with the other companies in the market. But if you are enterprising enough, you have the right entrepreneurial skill, you can succeed whether in a public or private sector' (Mgt1:P4).

'Job opportunities are very limited. Entrepreneurship is able to create job opportunities for the public. So, the role of Higher Learning Institutions is very important' (Mgt 2: P3)

The views above indicate the job opportunities in Malaysia, especially for the graduate has become a crucial issue for both the government and private sector. This situation needs to be analysed deeply to find its root causes and to design new formulas for handling problems when they arise. The pragmatic respondents drew attention to the religious point of view about the value of doing entrepreneurship and business as a career choice. This view holds that entrepreneurship attributes such as the need for achievement, seeking opportunities, being creative and innovative, risk taking, hard working, developing an internal locus of control and so forth should be adapted to our lifestyle. An idea shared by Kota Bharu Polytechnic (PKB) Directors, Universiti Malaysia Kelantan (UMK) experts and INSKEN Directors. The following statement reflects this view:

'This Ministry believes in entrepreneurship, and our motto is entrepreneurship. Entrepreneurship is the Career of Choice. We, as Muslims, know that business is 9/10 of our income. We should be doing business as our first choice career and if we cannot do so after some attempts, only then should we resort to the next 1/10 of income, which is having a paid job' (Mgt1:M1).

In contrast, 25 percent of respondents have another point of view. On this view entrepreneurship should not be the last choice for graduates. UKM expert 2, with more than fifteen years experience in teaching entrepreneurship, shared her opinion:

'I think it definitely can be used as a career option, in fact it shouldn't be an option, it should be a choice, it should be a choice for someone who wants to be an entrepreneur, they must decide from now, because for entrepreneurship you cannot apply by filling a form. Entrepreneurship is a job that you must work on from very beginning, many years before you graduate. Usually, people choose to become entrepreneurs after they

graduate, when they have no other job, so that is happening in our country among the graduates.’ (Cexp1: L2).

A few respondents believed that entrepreneurship could be a career option for reasons such as their skills and ability, family background, knowledge and personal interest.

‘...based on my experience, we believe that we can introduce entrepreneurship as a career option but it depends on the environment itself. Let’s say the environment whereby there is a lot of creativity, a lot of innovativeness. This environment is good to inculcate entrepreneurship; we can enhance the career options among students (Cexp1:L3)

‘...especially for those who are interested, whose background is from a business family’ (Mgt1:P1).

Based on these findings, it appears that 90 percent of respondents strongly believed that entrepreneurship is a possible alternative career for students. It is hoped that the knowledge, skills and attributes that are acquired through the entrepreneurship course will enable the students to become independent and thus will simultaneously solve the unemployment problem among graduates. In response to this, the Malaysian higher learning institutions have a major challenge to provide the students with the characteristic of entrepreneurs. In one point of view, 10 percent of respondents lacked the confidence to choose entrepreneurship as their career. One student expressed his feelings on this matter in the following statement:

‘Starting a business is actually not on their list unless they are desperate; if they can’t get a job, then entrepreneurship will be their career choice’ (PUO: S1).

The similar question was asked to the industry people regarding this matter. One of the respondents agrees that entrepreneurship may be used as a tool to solve unemployment in the nation. He stated that:

“One of the common causes of unemployment is that the graduates are too dependent on the government to provide them jobs, especially from government funded institutions. Such attitudes and perceptions should be changed the soonest possible. Jobs are not waiting for them but for them to look for. Only students who are willing to take risks will excel in their post graduate life.” (Ind:R1).

To validate the interview findings, the researcher put the same question as above to the group of stakeholders, lecturers and students. In the ensuing discussion, the majority of lecturers and students strongly believed that the purpose of entrepreneurship is to be self-employed, as illustrated by the comments below:

'...Due to my experience in Universiti Utara Malaysia (UUM), I am one of the first batches in the Business School, in 1988. I do know that we were trained to be entrepreneurs since we are in the first semester, and during the time I can manage a laundry in campus, a photocopy service as well...'(PUO:FG:L1)

'I strongly agree with entrepreneurship as a career option, whenever we understand and are given exposure to entrepreneurship, we may not have interest anymore to be employed because this fixed income employment is not giving more satisfaction to our life.' (PKB: FG: SG1).

'We all agree entrepreneurship can be a career option because based on our observations, we saw that from here and onwards it is difficult to get a job, but at the same time we have to survive for life, we also believe that one way out is by creating a job' (EXS: FG:S2).

The statements above indicates that the majority of the respondents from the focus group discussion also agreed that entrepreneurship was a career option for polytechnic graduates. In addition, the seriousness of Malaysian government's decision to acknowledge entrepreneurship as a career choice as expressed by the MECD motto, *Keusahawanan Kerjaya Pilihan* (Entrepreneurship is the Career of Choice). Indeed this exemplifies the Malaysian government's concern regarding this matter. In line with this motto, they have developed a programme to increase the interest of individuals in making entrepreneurship a career choice.

8.2.7 Entrepreneurship helping eradicates unemployment

This issue was highlighted by the UKM expert 1. His opinion is shared as below:

'Poverty is the key to the retardation of the whole development. They are trying to liberalise thinking in the belief that the advancing economy has an obligation to support the alleviation of poverty. At the end, the issue of poverty becomes central, it is a question of how to reduce or mitigate the formation of this kind of poverty, so it tends towards a micro analysis and it is going to be individually based. So YUNUS programme is based on micro financing and it already relates to entrepreneurship.' (Cexpl:L1).

The above assertion describes the relationship between poverty and entrepreneurship. In other words entrepreneurship might be used as a national strategy to diminish a hard core of poverty irrespective of race through raising levels of income and increasing employment opportunities for all Malaysians. This is in line with the New Economic Policy objectives launched in 1970 as discussed in paragraph 2.3.1, Chapter 2.

This study found that 90 percent of the respondents from the interviews and focus groups believe that entrepreneurship can be an assistance to resolve the unemployment problem among graduates. For instance, the UMK expert recalls the history of black graduates during the recession in late 90s and early 2000s. This left most of the graduates desperate and consequently their intention to go into business is very strong. He added that the problem is they know nothing about accounting or business, and it is just based on their endeavours because they have never been exposed to entrepreneurship and business. Based on this situation, they believe that entrepreneurship might play the important role of handling the problem of unemployment in the country, as stated below:

'... The reason goes back to the career choice. The increasing numbers of the population and the slow growth of the economy give an impact to the career choice of graduates. In the 21st century, I believe that entrepreneurship will become one of the important agendas in terms of career choice. Let's say the United States, this country shows a very good example of how to develop small business skills, how they train entrepreneurs and how their education system can produce entrepreneurs. Babson College is one of the institutions that proved successful in training or producing entrepreneurs. In fact, in United States the unemployment rate is low compared to the other countries' (Cexp1:L4)

In addition, the Ministry also believes entrepreneurship is one of the ways to solve the problem. This fact is supported by the following comment from a tracer study director:

'I strongly agree that entrepreneurship will reduce the unemployment problem. Statistics on unemployment show the increasing numbers of unemployed among graduates includes the students from polytechnic In order to improve this situation, the support from our ministry or department should be enhanced via links to bodies such as the Ministry of Entrepreneur and Co-operative Development (MECD) to train our graduates to become entrepreneurs. The follow-up course or training should be directed at these students' (Mgt1:P8).

Interestingly, one of the heads of department believed that entrepreneurship might be

the most excellent solution regarding this matter. However she was suspicious about polytechnic students. According to her, the problem of polytechnic students is that they know business can be the way but the exposure is very low in the polytechnic system. Accordingly, she suggested that entrepreneurship programmes in the polytechnic system should be enhanced rather than left as they are now and that activities should be boosted compared to what is happening now. Also that co-operation from everyone should be added. Bureaucratic hurdles must be reduced. From this basis, she believes that entrepreneurship whether through curricula or programmes will produce excellent graduates as stated by our government's aspirations (Mgt2:P1).

Conversely, 10 percent of respondents do not believe that entrepreneurship is an important factor in alleviating the unemployment problem. This doubt is expressed by the comment from a UKM expert 2:

'In our country I do not think it will not solve the current unemployment problem. Why is a world record, is a world research. Only four to five people are successful enough to become entrepreneurs after undergoing any kind of training even in the UK, Canada, and US. When they train and develop people the usual success rate for this process is four to five percent and they are the same in Malaysia'. (Cexp1: L2).

Basically this finding is in line with Economic Reports for 2007/2008 stating that 93,314 job seekers were registered at the end of June 2007. Part of that number, 59,913 hold a Malaysian high school certificate, Malaysian matriculation certificate, various skill certificates and diploma and degree certificates (Economic Reports, 2008). This implies that polytechnic students who graduated in the year 2007 experienced very high levels of competition in their job market.

8.3 Entrepreneurship education: The current development and practices

8.3.1 Student interest in entrepreneurship

In the interview and focus group discussion, respondents were asked the basic question *'Do you think business and non-business students are interested in studying entrepreneurship?'* Interviews with lecturers revealed that only 25 percent of business students were interested in learning entrepreneurship. This finding is supported by the comment from a PSA head of department:

'...I think there are not many students who are interested in it especially engineering students. I am not sure whether it's because they are being ignorant, or because they really are not aware of this, or really not interested. Maybe if we give them an early exposure this could bring about interest in them. That is why the DPCCE now opted to introduce entrepreneurship modules as electives. If they are really serious why not make it compulsory for all students and not just have entrepreneurship as an elective'(Mgt2:P1).

Similar questions were tabled to the polytechnic lecturers in the group discussion. This study found that the majority of them thought that business students were interested, even in some programmes that they were very interested in this subject but that they needed more exposure and their knowledge had to be enhanced. For example as mentioned below by PPD:

'...marketing students are more interested in this field. It is different with the secretarial students who will have to undergo two years diploma course and eventually select to work under Public Service Department (PSD). So, secretarial students are less interested in entrepreneurship compared to marketing and accountancy students' (PPD: FG:L3).

However, the interview with the non-business students found that they are not interested in learning entrepreneurship. Non-business students responded with expressions such as *'I don't know, I am not really interested'*. This clearly illustrates that students were not embedded with entrepreneurial skills and knowledge during their study. This finding was confirmed by the discussion with POLIMAS lecturers and demonstrates that the majority of the respondents thought that engineering students were not really interested in this module, R2001. Statements from the PPD lecturers supported these findings. They noted that it was mostly the business students who were interested in the subject. The rest of the students from civil, mechanical and electric engineering only wanted to listen to the lecture and to pass the paper. One of the reasons for this lack of interest is that entrepreneurship is only a sub topic, with the minimum contact hours (4 hours). Therefore this module is unable to make any impact in terms of the output of teaching and learning. The assertion below represents the lecturer's intention:

'I taught entrepreneurship in Engineering Department before and I found that many of the students were not interested in this subject. Now, we have Entrepreneurship as an elective subject for them but there are no respondents. Thus, the elective subject is not offered in this polytechnic. Secondly, the duration of 3-5 hours for R2001 is insufficient. So, there is no interest in the subject and I suggest that we need to re-look at the way we implement the module' (PSA:FG:L1).

In conclusion based on interviews and focus groups I found that the majority of polytechnic students are not interested in studying entrepreneurship in polytechnics, this is especially true of non-commerce students. There are some factors that contribute to this phenomenon. For instance, the subject is covered in a very surface way and this does not assist students to learn in-depth. The subject is not taught as directed in co-curriculum module. The lecturers are not capable and there are not enough of them to teach the subject. However, commerce students are very interested in this module, especially those in marketing programmes. Respondents also draw attention to the need for improvements to the existing module; it should be reviewed in order to make it more interesting and more effective.

8.3.2 The effectiveness of the entrepreneurship modules

The interview and focus group were asked to consider the question *'Do you think the current entrepreneurship curriculum is effective?'* In general, results show that all polytechnics are being offered the modules as directed by circular, MoHE. The responses, views and perceptions of respondents were concluded according to the modules, as follows. The discussion is reflected to the Table 4.2.1 in Chapter 4.

8.3.2.1 Co-curriculum Module (R 2001)

All the respondents involved perceived entrepreneurship as part of the co-curriculum module. It is offered to all polytechnic students under a new curriculum structure, which was revised in 2001. Overall, 80 percent of polytechnic stakeholders considered this module was not effective. This view is illustrated by the comment from the polytechnic director and head of the commerce department, quoted below:

'So far I don't see that this module is really effective for our students; it is just incorporated in the co-curricular module with a few hours allocated in teaching the module' (Mgt1:P3)

'...the existing curriculum is not effective, especially the R2001 in co-curriculum, because it's only four hours allocated. It is not reasonable' (Mgt 2:P5)

'I'm not so sure the role of R2001 under the co-curriculum since there are quite a number of on additional curriculum modules accommodating a 4 hours period. Even though it is quite insufficient' (Mgt2:P2).

The assertions above indicate that entrepreneurship incorporated in co-curricular modules is not effective at all. Both of the respondents were concerned about the insufficient number of hours allocated for this subject on the basis that this length of time is not consistent with the objectives of the module, as mentioned by the POLIMAS and PUO heads of commerce. Interviews with students taking the module confirmed this view:

'Of course it's not enough, it should be more, we learn in surface only, it should be taught in one module...it's not really emphasised because in semester two we learn it in co-curricula...honestly, based on our experience it is not effective' (PUO: S1).

'They just teach it in brief, but it's in the 'explorer club' so it's not emphasised and not very relevant, they just mention it, but don't emphasise it. They just teach a basic and we don't pay attention because we do it as an extra activity...I don't think the majority of us believe that this subject is effective' (PUO: S3.)

The engineering students revealed that the entrepreneurship component is not taught according to the curriculum proposal and depressingly the time intended for that portion was taken by other components. To confirm these findings, a similar question was asked in the focus group discussion with the ex-students. All the respondents had the same opinion that this topic is not been taught as mentioned in the circular. This view is reflected in the comment below:

'R2001, in the polytechnic it's quite loose; like us in the PBSM Club, they teach about survival and they don't teach about entrepreneurship' (EXS: FG:S1)

There was an unexpected finding from the group discussion with the POLIMAS ex-students when they revealed that they were not taught entrepreneurship during the Co-curriculum module (R 2001). They stated that they had never been taught this sub module in the polytechnic. However, the reality is different according to a lecturer who claimed:

'In my observation, I found that the syllabus of R2001 is approximately equivalent with P3117. The content is just surface and is not detailed. It consisted of what is an entrepreneur, the characteristics of entrepreneurs, and we did teach them all these throughout the whole semester as they took the R2001 subject. Then, the rest, we do it as classroom activities, like how to start a business and so on because when we teach students from different

departments, it's hard for them to be interested in it. Meaning to say, the R2001 is not that effective' (PUO:FG: L2)

The finding above represents the actual situation as it is happening for entrepreneurship modules in polytechnics. 90 percent of polytechnic lecturers in the focus group had a universal belief that R2001 is not effective.

8.3.2.2 Entrepreneurship Module (P 3117)

This module is offered to all commerce students as a core module. In general, this study found that polytechnic lecturers agreed that this module is effective; however, the module did need to be reviewed. According to the Curriculum Development and Evaluation Director, the entrepreneurship module under the Commerce department 'is almost settling down and it's running very well'. His view was discussed in the focus group and their comment was:

'The entrepreneurship curriculum for commerce students is quite effective; however the curriculum should be reviewed because the existing curriculum is outdated. The curriculum also should cover current topics for example information technology. This issue is very important in business, however the curriculum doesn't put much emphasis on that' (MAS: FG: L2)

Students were asked similar questions in the focus group discussion. They acknowledged that they were interested and knew about entrepreneurs, and that they believed this module was effective. However, this group of respondents also suggested the module should be reviewed due to recent changes in technology and the business environment. These suggestions were supported by almost two thirds of the heads of department, as shown in these comments:

'For commerce students I strongly recommend that this module should be revised. Maybe the content is obsolete or outdated; and we have more current issues regarding technology and business matters, and it is time to review the existing curriculum.' (Mgt2:P5)

'...the present curriculum is too rigid and does not provide space for students to develop their selves creatively and so on...' (Mgt2:P1)

Based on the arguments above a few issues emerged that needed to be considered; as stated the content is obsolete and needs to be reviewed. The curriculum also should be

more flexible and its focus more practical. With reference to these issues the in-depth discussion will be tackled in the later part under the curriculum content.

8.3.2.3 Entrepreneurship Development Module (P 3130)

This study found that for heads of commerce departments 80 percent agreed that this module is not being offered in the respective institutions even though the circular was sent to all institutions in July 2006. Respondents were asked why this situation prevailed and the majority of the respondents pointed to similar reasons: staff shortages.

‘Currently we do not offer this module to the other departments, the reason is the lack of staff, and actually we lack at least eleven staff. According to the number of classes, we should get more staff in the commerce department. I believe that this problem is not only happening in polytechnics, it is a common issue to all polytechnics’ (Mgt2:P5)

‘P 3130 serves as an elective for all departments, but it is put on hold due to shortage of lecturers. What I would suggest is for P 3130 to have external lecturers’ (Mgt2:P2).

However, this module received attention from Kuching Polytechnic (PKC) which is further advanced than the other polytechnics. According to PKC’s Head of Department, the module was introduced and offered to all departments this semester, however, instead of six departments, only one department decided to opt for the subject. This was the Electrical Engineering department where 20 students were interested in studying the module.

A second issue is that the promotion of the subject is not efficient. Consequently, the researcher found that lecturers and students in polytechnics were not aware of the existence of the module. This also helps to answer the question of why there are no takers for this module. These statements from the focus group and interview session illustrate this lack of awareness:

‘Obviously I never knew that the subject exists, I never been exposed regarding this matter’ (PPD: FG: L1)

‘I am sure it is not available yet because it is not a compulsory subject, just a small portion in co-curricular module...No, I am not sure, because I

come from the Electric Department. Maybe the students from Commerce know about it' (PPD: S1)

In my observations during fieldwork I found that the ineffectiveness of both modules above was due to the status of the module itself which is Entrepreneurship module (P 3130) and Co-curriculum (R 2001) is the elective; it is not a standalone module respectively. The situation worsened whenever respondents were asked *'Why has this happened?'* The inquiry elicited a variety of responses and these can be concluded with the assertion of the Policy Planning Director as stated below:

'Currently we have not embedded entrepreneurship as part of the system, we have "Entrepreneurship" as a subject, but lately that subject is missing. Our current minister felt that students should have entrepreneurial skills, and we should embed these across all subject not by a subject itself and across all courses and subjects' (Mgt1:P4).

The statement above reveals that entrepreneurship was originally intended to be incorporated in the other modules and not as a standalone module. Consequently, after a few years the results of the modules remain at the same stages, and are not effective. The DPCCE Director General supported this view with the following comment *'if we were to insert this within the curriculum, it would definitely fail'*. In order to operate effectively polytechnics have to study the findings of previous research on issues such as staff constraints, contact and credit hours of the modules. The statement by Deputy Director General explains the situation:

'It will be effective by offering entrepreneurship in the programme as a module; it might be carrying two credits. It should be compulsory. Currently, we offer it as an elective module due to lack of staff. The reason is to teach entrepreneurship to the entire programme the entrepreneurship lecturers should be from the commerce department. However, based on the present capacity and the strength of the lecturers, it is impossible to introduce entrepreneurship as a special module for all students. I think we need more staff and then the teaching of this programme will become very effective' (Mgt1:P2)

Basically, this contrasting idea exposes the actual situation in the polytechnic education system. Indeed, this interesting finding was paving the way for the researcher to explore in more depth the actual factors contributing to the contradictory results and lastly to find solutions that would improve the condition.

When they were asked about P3130, lecturers gave similar answers, 'it's not offered because of the shortage of lecturers and at the same time there is no response from the students'. The polytechnic lecturers also requested the possibility of reviewing the current curriculum especially P3117 and R2001. A second issue pointed out by lecturers was the number of students in the classroom, this may create an in-effective teaching and learning process.

8.3.2.4 Entrepreneurship (P 3131)

According to the Curriculum Development Officer the new module Entrepreneurship (P 3131) was introduced in parallel with the new programme offered in the polytechnics. This module was offered on the Diploma in Retail Management programme since July 2007 and was offered on the Diploma in Business Studies (E-commerce) and for the Diploma in Logistics and Supply Chain Management on January 2008. He added that in his opinion no research has been done to find out the status of this module so far (Mgt1: P9).

In conclusion, entrepreneurship has become the effective module for Commerce students, module P3117, but improvement of the module should be embarked upon. Entrepreneurship as a sub-topic in the co-curriculum module, R2001 was found to be not effective and the new elective module P3130 still cannot be evaluated since only 20 percent of polytechnics are offering this module. The factor that contributes to this shocking result is the shortage of lecturers, which will be discussed in more depth during the next section.

8.4 Developing A New Entrepreneurship Curriculum

8.4.1 Context and Conceptual Issues

This section presents the results from interviews and focus groups, which are discussed separately to compare the collective and individual opinions from the two data collection methods. Theoretically, based on the triangulation method of data collection (Denzin and Lincoln, 1978), validity of the input from interviews will be confirmed by the focus group. In essence, the analysis revealed that 90 percent of respondents from

focus groups agreed that the content should focus more on practical aspects, as stated below:

'Maybe we have to revise the current entrepreneurship curriculum. I notice that our existing curriculum has more focus on theory, although we know our students don't like theory'. (MAS: FG: L4)

'... I feel that it's good to be more practical. Of course, we can teach the theory, but in terms of effectiveness it should be more practical' (MAS: FG: L2)

'...it should be more practical and the theory should become a minor part of the syllabus' (MAS: FG: L1)

The above findings imply that the entrepreneurship curriculum in Malaysian polytechnics should focus more on practical issues rather than on theoretical ones. The statements below represent the opinions shared by the interviewees:

'To ensure a better curriculum, first we need to reduce the theory, and increase the practical. For example, students need to prepare more paperwork, and have the basic accountancy knowledge. This is to implement the entrepreneur culture' (Mgt 2:P3).

The statements above show that the majority of heads of commerce departments agree that the content should be changed to enable more hands-on activity rather than being too theoretical. This view was also supported by a content expert and by students in the interview session as mentioned above. In other words, the balance between the theory and practice of the existing curriculum should be revised: for example to a ratio of 60:40. The entrepreneurship education evolves in parallel to the changes of science and technology. Hence, the curriculum also should be changed accordingly. In addition, the last amendment of the entrepreneurship curriculum was in 2002 (Mgt1: P9). The lecturer in the focus group informed the researcher of the rationale for the revision:

'The entrepreneurship curriculum itself is not precise, it is not well organised; and it is straightforward. This is why some students feel that they got nothing from this module.....' (MAS: FG: L2).

'The current curriculum should be reviewed and most importantly the teaching methods should be reorganised accordingly. This is very important in order to be more effective in teaching and learning entrepreneurship in polytechnic' (MAS: FG: L5).

'...the content should be revised; current issues should be added in the curriculum' (PPD: FG:L2)

In a nutshell, the current curricula are not covering the latest issues according to changes in the business environment. Also the existing curriculum is more than five years old, which is more than standard age set for a review of the curriculum. In other words, the revision of the current curricula is strongly needed in line with the development of technology and business information nowadays.

8.4.2 Content of Entrepreneurship Education in Malaysian Polytechnics

Regarding the content, various ideas were raised in focus groups, discussions and interviews as shown in Table 8.1. The curriculum proposed by the group of lecturers.

Table 8.1 Proposed Content of Entrepreneurship Education

Content	Interview	Focus Group
Motivation should be taught from time to time or this topic should be put first in this module		PKB:FG:SG1
Motivation	Cexp1:L5	
Motivation is one of the important topics in entrepreneurship. To encourage students we have to motivate them.	Cexp1:L6	
First is the motivation part, in which we try to change the mind set of people from doing jobs with steady paid salaries to business	Mgt1:M1	
Motivation is very important and should be part of the module in the entrepreneurship curriculum	Mgt 2:P6	
Business plan		MAS:FG:L3
Mini project on business planning		PPD:FG:L2
Produce a proper business plan	Mgt2:P6	
Business plan though not too detailed but they need to know the format for doing it.	Mgt1:M1	
There should be entrepreneurial plan. The business plan is a part of entrepreneurial plan		
Prominent entrepreneurs figures/local entrepreneurs	Cexp1: L2	PPD: FG:L
How to do paperwork, how to get financial resources, how to handle competition, to handle environment, promotion, communication skills, competence in whatever skills are needed in business, risk taking and an aim or objective		PKB:FG:L
The attitude; entrepreneurial thinking; vocational entrepreneurship; business skill; entrepreneurship value	Cexp1: L2	
Entrepreneurship pedagogy, another thing is to emphasise entrepreneurship thinking. I focus on identifying entrepreneurship opportunities, the thinking. Identifying an opportunity comes from how observant you are, how analytical you are, so this is entrepreneurial thinking.	Cexp1: L2	
About the agencies which can give them a subsidy or loan, for example, PUNB, Belia, Mara, PNB	Mgt 2:P6	
How to be an entrepreneur, the procedures, banking, loans and so	Mgt1:P5	

on. Those are the real things for them to learn	
Add more content, for many reasons because I can suggest many topics that I feel are appropriate	CoPKB
Basic knowledge on entrepreneurship, how to build self confidence, negotiation skills, attitudes, public speaking, body language and ethics	Ind:R1

Source: Adapted from the Interview and Focus Group Discussion

Table 8.1 above shows the content of curriculum proposed by respondents. The majority of them believe that motivation and business planning should be a compulsory topic in entrepreneurship. However, a contrary idea was raised by one of the professors, who perceived entrepreneurship from a different perspective. His point of view is interesting and different from the other respondents, as indicated below:

‘The entrepreneurship curriculum cannot be structured like the other curriculum, but it should be very open to allow flexibility in the curriculum.For me, entrepreneurship has no guidelines, it is A to Z curriculum, it unstructured. In Malaysia, this is a problem, it is a very structured curriculum’ (Cexp1:L3)

Bold critics such as the one above have to be considered and discussed, and deeper investigations have to be conducted in order to produce a better curriculum. The future curriculum should no longer be dependent on traditional methods. The view above seems in line with that of the expert from UKM who stated that the ‘content of the entrepreneurship module is still business oriented, not entrepreneurship oriented’. This implies that there is no freedom in the entrepreneurship module so far in Malaysia.

8.4.3 Objectives of Entrepreneurship in Polytechnics

In the context of curriculum development, the objectives of a module are one of its vital components. The content, assessment, space and necessary equipment for the curriculum will be determined based on the objectives of the module. The views and suggestions of respondents were divided according to their categories; Top management consists of the Directors and Head of Commerce Department under DPCCE and the INSKEN Director; the expert from the university; the polytechnic lecturer and students, as depicted below:

Top management (Directors and Head of Commerce Department)

- is not only to start off a business, but more towards education in soft skills like creativity, leadership, innovation and other features of an entrepreneur (Mgt1:P1)
- to **expose** the students to the world of entrepreneurship (Mgt1:P5)
- to **give them an early exposure** which could stimulate their interest (Mgt2:P1)
- To **create an excellent** entrepreneur in order to form a group of Malaysian entrepreneurs from various fields; to **instil the spirit** of entrepreneurship in those who are really interested in becoming entrepreneurs; to **create the spirit** of entrepreneurship among the students (Mgt 2:P6)
- to **be exposed** to entrepreneurship (Mgt 2: P3)

Expert (University)

- to produce high calibre graduates with the right attitudes and skills in entrepreneurship; to produce competent entrepreneurs through education and training; to produce graduates who are able to provide consultation, guidance and advice to prospective entrepreneurs and business owner-managers; to produce graduates who are able to work as managers in financial institutions, governmental and non-governmental departments that serve entrepreneurs and business owner managers; and to produce skilled programme developers and trainers who are capable of providing entrepreneurial and management training; to develop an entrepreneurial culture appropriate to the area concerned, apply the theory and managerial techniques in the entrepreneurial activities (Cexp1:L4)
- to reduce or mitigate poverty (Cexp1:L1)

Lecturer (Polytechnic)

- to be **more exposed**, because they are already interested; should be just **exposure** for them; to **encourage** them to be interested; To **nurture** entrepreneurship knowledge and skills in our students; to **produce** entrepreneurs, or at least people who possess entrepreneurship characteristics (MAS: FG: L1)
- to **inculcate the** entrepreneurship culture, which I see as giving a choice to students (PKB:CO:L1)
- to **expose** or to provide knowledge to the students; to **equip** them so when they graduate, they have all the facts that they need (PPD:FG)
- to develop awareness and interest in entrepreneurship among students; to nurture entrepreneurship knowledge through entrepreneurship studies; to create and develop knowledge (Cexp1:L6)
- To expose them at our education level (Cexp1:L3)

Students

- To **educate** students to be entrepreneurs and to not depend only on government jobs after graduation; to **be an entrepreneur** and not to be employed; To **expose them** to the entrepreneur's world (FG:PKB)
- should **be expanded** and taught more in-depth to all students (FG: EXS4)

The above findings shows 50 percent of the overall respondents tended to agree that students should be exposed to entrepreneurship. In addition, respondents suggested this subject should be expanded to give students more exposure to entrepreneurship. Their views refer to the question set in the interview protocol, *'In your opinion, what is the objective of the entrepreneurship education that should be suggested in polytechnic?'* First of all, the Director General of DPCCE had a wider perception and believed that the aim of entrepreneurship should focus not only on producing entrepreneurs, but should simultaneously inculcate soft skills like creativity, leadership, innovation and other entrepreneurial characteristics.

However, the content experts from universities perceive the objectives of entrepreneurship education from the macro level. For instance a UKM Professor stressed that the objective of entrepreneurship is to mitigate poverty in the nation. Accordingly, he added that the recent international entrepreneurship summit had discussed the alleviation of poverty through the "Yunus"²⁰ concept.

In order to strengthen the current module, 70 percent of polytechnic lecturers stated that the objectives of entrepreneurship should not be based on knowledge acquisition. Instead, the effort to be entrepreneurs should come in objectives aimed to encourage interest in entrepreneurship and secondly to expose or to provide knowledge to students. Most of these ideas are expressed in the comments from two respondents below.

'Objective of entrepreneurship needs to be changed from introduction and exposure to try and increase practicality towards entrepreneurship. Students should be exposed to organisations which may help them to be involved in entrepreneurship or business, like banks or government organisations which can assist students in their entrepreneurship career' (PPD: FG:L1).

²⁰ **Muhammad Yunus** (Bengali, born 28 June 1940) is a Bangladeshi banker and economist. He previously was a professor of economics where he developed the concept of microcredit. These loans are given to entrepreneurs too poor to qualify for traditional bank loans. Yunus is also the founder of Grameen Bank.

'This entrepreneurship subject is not actually a sub module in the co-curriculum as we've proposed in P 3117. So, the objective is not to give them the exposure, yet, it is guidance and support in order to motivate the student to become an entrepreneur' (PUO:FG:L2)

Subsequently the main content in line with the proposed objectives has to be designed in alignment with the atmosphere of the polytechnic. This issue will be discussed further in the next chapter.

8.4.4 The Assessment

In relation to assessment, the question was asked *'What do you think are effective methods for the assessment of entrepreneurship?'* By way of explanation the follow-up question added *'which one do you prefer, student assessment by examination (formative) or continuous assessment (summative)'*. The sharing of ideas between polytechnic lecturers and students regarding this matter is essential, particularly in terms of finding the best method of assessment. Assessment refers to the measurement of entrepreneurship as a subject in polytechnics. It refers in particular to measuring the performance of students who are taking entrepreneurship as a subject. Assessment also refers to the evaluation of the project from its early stages until the student completes the module and this is done continuously throughout the semester.

In developing a robust curriculum, the content, pedagogy and assessment are usually planned as a package to ensure the consistency of the curriculum. The process of curriculum development inevitably has to embrace all these matters in planning, framing or revising the curriculum. The views of lecturers are important to ascertain the current practice of entrepreneurship assessment in polytechnics and then to obtain suggestions for the best methods of assessment. In the polytechnic system, the examination system is centralised as mentioned by the chairman of the examination board:

'In terms of exams it started off when we had more polytechnics, so the issue of having a common examination arose. We are saying that all the polytechnics have the same standard. So with that we have some elements of centralisation' (Mgt1:P3).

Basically there are a few types of assessment practice in polytechnics; by continuous assessment, final examination or combination of both. For instance quizzes,

assignments, group work, paperwork and presentations are classified as continuous assessment, whilst mid-term and final examinations are grouped in a different way. The issue arising in the polytechnic system is the matter of how the assessment is apportioned according to course content. In the existing format, the assessment allocates 60 percent for continuous assessment and 40 percent to the examination

The results from the interview and focus group revealed that 90 percent of respondents (lecturers, expert and student) favoured mixed methods of assessment. For example, POLIMAS lecturers in the focus group discussion agreed that the existing methods should be continued, but a few modifications should be made to future plans. Other views are similar as quoted below:

'If there is no final exam, the students would not be interested to learn. But when we have an exam, it becomes exam oriented. However, I think it should be a combination. The ratio of 60:40 that we have now is good' (PPD: FG:L2).

'Continuous assessment is better than examination. But we still need an exam, to analyse them in practical work, to see their attitude, to see how diligent they are, and the originality of the work. I think that is much better and we also are satisfied with it... we have to show our skills, our commitment and ability in real life' (PKB: FG: SG2).

The views of a content expert from the university confirmed that the current practice of assessment should be continued. It is based on an entrepreneurship module that is more practically oriented. The expert agreed that both continuous assessment and examination should be used to evaluate students' achievement, rather than depending solely on examination.

'So I agree to assess our students continuously based on the project where we analyse their skills and attitudes instead of relying too much on exam' (Cexp1:L4).

'I think we should focus to both final exam and continuous assessment. The reason is, if there is no exam student don't bother with it because they feel that there is nothing, do a paper work, do an assignment and wait for the result. At least exam can be used to measure the understanding of the module, they have to learn and study' (Cexp1:L6).

The remaining 10 percent of the respondents thought that since this subject is not theoretical, the assessment should incline towards a practical approach and agree to

discard the examinations. This idea was supported by UUM expert and group of lecturers who in their argument stated that:

'I don't think examination, maybe some kind of project. I am trying to suggest to the university to have, let's say, in the first semester you do a Business Plan (BP), brainstorming among the students; and in the second semester implement the BP. The students can do the business with university funds, the business should then follow to their BP. They can start with a very small business, maybe not in the production, but just in a retail type, it could really be applied...' (Cexp1:L3)

'Some lecturers prefer to focus the entrepreneurship assessment towards the building of the business plan, but we need to insert some tests there. Meaning to say, students will be concentrating in producing the business plan' (PSA:FG:L5).

As for the students' perspectives, all prefer to retain the existing practice, and to assess students through a combination of practical tasks and theory. They also suggested that instead of 60:40, the ratio between continuous assessment and final examination should be changed to 80:20. Their opinions are reflected as below:

'It depends on the weighted of the content; if the content is more on practical, the assessment should follow by the hands on. However, the current practice of assessment is a combination of exam and continuous assessment. It should be maintained. The exam is still important to assess student work, knowledge and ability. I agree to continue on what we are practice now, 60 percent continuous assessment and 40 percent on the examination.' (PPD:S1)

'Examination could include continuous assessment in the scope, spread over two months, once a week, for example, doing a quiz, small test etc. I agree with 80 percent of continuous assessment and final examination carries of 20 percent, because we can see how far they understand the entrepreneurship concept before they go to the actual field' (PUO: S3)

The discussion in the focus group with former polytechnic students supported the findings above. As previously mentioned they also prefer continuous assessment because it is more practical and in line with the projects or assignments given by the lecturer.

The discussion with the lecturer in focus groups found that two types of assessment had been proposed. Firstly, maintain the current assessment practices (status-quo) and secondly sustaining the traditional method with some improvements. This study found

that all POLIMAS lecturers agreed that it should be a combined assessment method; continuous assessment and examination to evaluate the students' performance. The reason for retaining the exam is stated below:

'If there is no final exam, the students are not interested to learn. But when we have exam, it becomes exam oriented. So, I think the best way is a combination. The ratio of 60:40 that we have now is good' (PPD: FG:L2).

The PSA lecturers were also asked the same question '*From your experience, can you explain which the best method to assess the entrepreneurship*' Following a long discussion I recorded one of the arguments that was put forward. This view is fairly representative of lecturers regarding this matter:

'Examinations are really exhausting and a burden on the students. If we were to judge the students that would want to be an entrepreneur by 60:40 after obtaining an A, will they be one? Well, it will just be based on what he/she has read. This is because we cannot measure the entrepreneur passion within. So, the best method is to merge the two so that we could better assess them. We come up with a Business Plan (BP) a tournament, an entrepreneur day and we evaluate from there onwards, based on their BP, whether solid or otherwise, and not from their examination results' (PSA:FG:L4).

Secondly, some of the lecturers thought this module should have its own assessment mechanism. It is not one based on examination papers, because it is not to train the students to be entrepreneurs (PSA: FG). In other words, we are evaluating students based on their practical mini projects (PPD:FGS).

Student views are interesting; based on their experience they prefer continuous assessment rather than examination and ex-students prefer practical assessments. According to them, examination does not measure the student's actual understanding of entrepreneurship because '*...in an exam they can read and memorise the content, even if they do not fully understand, they can answer well in the exam because they want score in the exam and not for the purpose of enhancing their knowledge.*' (FG: EXS)

8.5 A New Epoch of Entrepreneurship Education

8.5.1 Entrepreneurship as a Compulsory Subject

A question arose in this context based on the possibility of offering this module as a compulsory module for all. The question asked was ‘*Do you agree that an entrepreneurship module should be implemented as a core/compulsory module?*’ The results obtained from the interviews and focus group discussions are arranged in three main categories:

First, status-quo/elective - in the existing academic structure Entrepreneurship Module (P3117) is offered as an elective module for all. It is compulsory for Commerce students and is incorporated into the Co-curricular Module (R2001) for all polytechnic students. This topic was described in detail in paragraph 4.4.2, Chapter 4 of the literature review. Multiple opinions were gathered regarding this point in the interview and focus group. The excerpts below indicate respondents’ stance and reasons based on their experience and observation:

‘For business students it should be core, for engineering students it is elective and for Information Technology programme, it can be compulsory for them. The reason to maintain this module because of the course structure will burst and more burden the students’ (MAS:FG:L2)

Polytechnic lecturers and students had a tendency to agree that entrepreneurship should be offered as an elective module for all students, on the grounds of problems with the structure and the burden on students. Also not all polytechnic students are interested in studying the module. This opinion of lecturer and students is in line with arguments from top management, whose collective stance is reflected in the comment:

‘The Curriculum Board compromised and decided to offer entrepreneurship as an elective rather than as a compulsory module, the argument is that not every student is really interested in entrepreneurship, they can be graduates and be one of the entrepreneurs. That is the reason we give them the option to make entrepreneurship as an elective module. So anybody can take this module and this will add value and I totally agree with this decision’ (Mgt1:P5).

According to the Director General of DPCCE the module should be implemented as an elective module for interested students only. The reason is not all students will turn out to be entrepreneurs. Subsequently, 30 percent of respondents suggested that instead of

being a compulsory module, entrepreneurship should be offered only to students who are interested. Their arguments are:

'Like the Australian version, offered only to those certain people you select, because not all people can be entrepreneurs...There must some kind of selection process, a good selection process, tell them, such as use a GET test whether these people have the potential to be entrepreneurs' (Cexp1:L3)

Indeed, the ideas above conflict with the general government agenda, which clearly stated that entrepreneurship should be encouraged in higher learning institutions. This idea is in line with UMK experts who believe that in the culture of Malaysian students, everything has to be forced to ensure the project is successful (Cexp1: L5).

Secondly, the question of entrepreneurship as a core module; the comments from the content experts show the government's commitment to developing entrepreneurship in Malaysia higher learning institutions. The extracts below reflect the government's intention regarding this matter.

'Now after Tok Pa²¹ has made the subject of entrepreneurship compulsory in universities, everybody has to study entrepreneurship. They have to learn, whether or not they are interested in becoming entrepreneurs. This is one of the ways' (Mgt1:M1).

'Recently, entrepreneurship has been recognised as an important subject for all students as a university course' (Cexp2:L4)

The above statement illustrates that as anticipated higher learning institutions have to offer the entrepreneurship module in their institutions. Interviewees were asked about the possibility of offering this subject as a compulsory module for all polytechnic students. This study found that 60 percent of the respondents agree that it should be compulsory for all students. Interviews in polytechnics show that 80 percent of polytechnic heads of department thought this module should be compulsory for all. However, PPD heads of department thought that it should be offered only to those who are interested because if students are forced they will be not interested. Other opinions are shown below:

'I would prefer it to be taught as a compulsory module, definitely, but according to the directors of entrepreneur subjects meeting, it would consume too much time due to it being two credits, hence they have

²¹ Tok Pa or Mustaffa Muhammad is a Minister, Ministry of Higher Education, Malaysia (2004-2008)

come up with a decision to omit this subject to create more room for another module which, in their opinion, is more important...I would pray that entrepreneurship be taught as a compulsory subject to all students' (Mgt 2:P6)

'We can make it compulsory but we would have to give them an extra credit. For example, in the Mechanical Engineering department, they have so many core subjects, so if we make it as compulsory, they might have to drop another subject: if not, it would burden the students' (Mgt2:P4)

The statement above shows a few things that are of concern regarding the matter above, such as credit hours, student workload, and the importance of implementing this kind of module. However the PSA head of the commerce department questions the seriousness of the DPCCE's intention to implement entrepreneurship at polytechnics. Her arguments refer to the fact that the government's intention is not in line with entrepreneurship that is being implemented in Malaysian polytechnics. Her argument is:

'...the first step is not to put entrepreneurship as an elective. There are those engineering students who are interested, but exposure to one type of module is not enough...that is why the Ministry has now opted to introduce entrepreneurship as an elective. Do they really want to implement the module or not? If they do, they should not put it as an elective. If they are really serious, why not make it compulsory for all students, not just have entrepreneurship as an elective' (Mgt2:P1).

The interesting finding is that the respondents from polytechnics propose that the entrepreneurship module should be returned back to the original module under Small Business Practice in 1980s which was offered as a compulsory module to all students.

The precious opinion is recorded as follows:

'I propose that we go back to the original one, entrepreneurship be a core subject. If students graduate and are unemployed and in that time they determine to carry out a business, they already have knowledge, because they already have embedded technical skills, and they require only a little entrepreneurship knowledge to qualify them to become entrepreneurs. (Mgt1:P10).

Thirdly, the question of the combination between compulsory and elective modules: non-academics believe that there are two ways of implementing entrepreneurship, whether as a compulsory module or incorporated into other methods like co-curricula, seminars, workshops and so forth. A programme like training is another way to encourage entrepreneurship in the polytechnic system.

'I think both. For example, at universities it is put as a compulsory subject. By doing so, students would be directly given the necessary knowledge regarding entrepreneurship. It does not matter whether they become entrepreneurs after getting the knowledge. If they want to, they already have the knowledge ...entrepreneurship must be taught formally and informally.....' (Mgt1:M1).

'...it should be a module and compulsory for all. It should be one module for all courses across the board, and not only for the Commerce Department. Even engineering students, it can be one module for them. However, it can be elective for the other courses and compulsory for the Commerce Department' (PKB:CO:L1).

Both views above represent the 10 percent of interview respondents who agreed with the entrepreneurship module being offered as a compulsory module and at the same time as an elective for certain courses.

8.5.2 Semester offered

As stated in the last section entrepreneurship is intended to be delivered in a few stages; offered in a few semesters by a few modules. This study found that 75 percent of the respondents agreed that entrepreneurship should be offered in the early stage, even in the first semester. In general, a UKM Assoc. Professor suggestion might be useful as a basis to support these arguments. She thought, *'we should start down from even in primary school...'* Sultanah Bahiyah Polytechnic (PSB) director thought that *'what we were doing now is fair enough. We introduce it early for students so they can learn in depth if they want to by asking the lecturer how to get a loan and so on. So, better we stick to the existing one'*. The input from the student and PUO head of department are good for this point of the discussion:

'Not in final semester, because for engineering the final semester is very tough and don't burden the students, may be in semester 2 or 3. Also the final semester is the time for students to top-up their credit' (PPD: S2).

'For me, to expand entrepreneurship, we must start at the very beginning. Entrepreneurship does not necessarily rely on higher education. So long as there is enthusiasm, drive to succeed, then he/she will strive to achieve his/her goal.' (Mgt2:P6).

In contrast 25 percent of respondents prefer to offer entrepreneurship in the final semester. They thought that the student's knowledge was still fresh and that students were more motivated to venture into business, as stated *'...because they want to leave*

and will be using the things, it is good for them. The knowledge that they got can easily be implemented because the ideas are still fresh in their mind' (Mgt2:P4). However in the same context she agrees that in the early stages the reasons are:

'From the other point of view, it's quite late to introduce them to this matter. Because when we talk about entrepreneurship it not only refer to business, it is all of life for example your skills, your ability, your talent and of course your knowledge. We should have interpersonal skills, communication skills in order to be a good entrepreneur, and a good leader and manager. Sometimes people ignore it, for them entrepreneurship is business and vice versa. So we have to navigate their thinking, clear the concept of entrepreneurship, if not they keep repeating the same mistake' (Mgt2:P4).

In order to be effective, this module should be offered based on the objective of the module itself, POLIMAS head of department suggested that:

'If the objective is just to expose the student to knowledge it is not much affected by the semester in which it is being offered. However, when the objective is to produce entrepreneurs, we should think about the practical semester. I believe the majority feel that it should be offered in the early semester. For some people the final semester is effective due to their knowledge still being fresh and this will encourage students to start new businesses. Once again for me, it should be based on the objective of the module, this is very important.' (Mgt2:P2)

This study found that all of the ex-students agree that entrepreneurship should be offered in the early semester. However, a few students in PKB agreed that it should be offered in the final semester. Their views are similar to the reason given by PPD head of department as mentioned below:

'...I also feel that it proper in the final semester because when the knowledge of the graduate is still fresh. We still have a strong dream to be entrepreneurs. Like us now in the semester six, entrepreneurship has been taught in the third semester, so the feeling is not as strong as it was in the sixth semester. Then, in the forth semester we had started learning the other subjects such as office management, human resources, so the practice that we get on entrepreneurship is dropping off, there is no feel, it is go less and lesser, the intention to be entrepreneurs still alive but smaller' (Mgt2:P4).

8.6 Entrepreneurship: Extra-Curricula Activities

Instead of part of the curriculum, entrepreneurship education is also perceived in a broader perspective via the activities and programmes implemented in the respective institutions. The findings below illustrate the implementation of such activities and programs:

Table 8.2 Polytechnic Activities and Programs

Polytechnic	Activity And Programme
PKB	<ul style="list-style-type: none"> • selling activities using kiosk • handle a farm cow and fisheries • on graduation day - invite corporate firms to deliver a certificate and give a motivation talk • entrepreneurship week- students opening stalls, workshops • Intention to do incubator • entrepreneurship hub
POLIMAS	<ul style="list-style-type: none"> • invite speakers to give a talk • entrepreneurship club activities • motivation seminar • in graduation day - 45 stalls managed by the students
PKC	<ul style="list-style-type: none"> • seminars in collaboration with MEDC UPK, the state UPP, state financing agencies like SMI Bank, MARDI research, FAMA for marketing and MARA, SEDC and also SFO exposure.
PPD	<ul style="list-style-type: none"> • Entrepreneurship seminar • invite MECD, successful ex-students, panel from the Negeri Sembilan Malay Chamber of Commerce
PSA	<ul style="list-style-type: none"> • outside the classroom under clubs • Graduation day, entrepreneurship day, registration day and Kamsis Open Day - opening up stalls • Cooperation with MECD • Cooperation with ANGKASA
PUO	<ul style="list-style-type: none"> • sales activities by the students, according to their groups • sales during graduation day • Kiosk/stall courtesy by state government

Source: Adapted from the Interview and Focus Group Discussion

Table 8.3 Other institution activities and programs

Institution	Activity And Programme
UiTM	<ul style="list-style-type: none"> • Centre -MEDEC • Co-Curriculum (KEMUSA)
UMK	<ul style="list-style-type: none"> • Time lecture series (TLS) • Prime entrepreneur lecture series (PELS) • Student in enterprise programme (SIEP).
UUM	<ul style="list-style-type: none"> • Business and Entrepreneurship Development Centre (BEDEC). / Entrepreneur Development Institute (EDI) • Stalls
UKM	<ul style="list-style-type: none"> • Intention to introduce entrepreneurial index • Kiosk • Cooperation with Waheda University, Essex University, • Joint venture with SMIDEC

Source: Adapted from the Interview

Objectives

- To enrich student experience, foster personal development and prepare them for responsible leadership in the context of best practices.
- To practice entrepreneurship skills.
- To encourage our students to start their own business in future.
- To motivate students and open their minds towards entrepreneurship.
- To learn something new from this activity.
- To get a story from the lecturer based on firsthand experience, a real picture of the business world, that is what they actually want.

8.7 Entrepreneurship: The Pedagogical Issues

Teaching content and methods will be decisive factors of success for entrepreneurship education in the 21st century (Volkman, 2004). The study found a few methods were executed in the polytechnics as discussed below.

8.7.1 Traditional Method

Data collected from the focus group lecturers and students shows respondents are in agreement that this module should be taught through a practical rather than a theoretical approach. The researcher's observation in MAS, however, revealed that teaching methods in this subject are entirely based on the conservative approach, using a didactic

method and no teaching aids are used. These methods as confirmed in the interview and focus group are not “effective” and need to be changed. At the same time the researcher was informed that all institutions are well equipped with sophisticated technology such as a computer labs, laptops, internet access and more, so why does this situation exist? This question will be answered in the discussion chapter.

8.7.2 The Proposed Method of Delivery (Pedagogy)

The interview and focus group respondents were excited about sharing their experience and knowledge whenever they were asked ‘*Based on your experience, what methods are effective - in teaching entrepreneurship in higher learning institutions?*’ Their accumulated responses are grouped below:

8.7.2.1 Experiential Learning (EL)/Learning by Doing

According to the Dean of the Faculty of Business and Economics, UKM, experiential learning refers to students being involved in real business experiences in order to acquire skills and knowledge. The UUM expert 1 added that experiential learning refers to a teaching and learning method that takes place both in and out of the classroom. Experiential learning engages with real problems and it should be hands-on (Cexp1: L3). When asked about this matter, one of the respondents stated:

‘I prefer experiential learning as a method of teaching entrepreneurship. Honestly, I tell you if you teach theory, students will find it boring, they don’t like theory. Experiential learning means that we bring a real environment to the classroom’ (Cexp1:L5)

This study also found that polytechnic lecturers already practice experiential learning methods. However, due to lack of exposure, and lack of knowledge they did not realise that this was the case. The findings show that 80 percent of university lecturers claimed to understand and practice this method, compared to polytechnic lecturers of whom only 30 percent knew and most did not practice a similar method. This implies that experiential learning is more widely applied in universities than in polytechnics.

‘My suggestion is that mini projects should be given to provide hands-on experience, to let students make their own projects, the real projects. So they learn based on experience. Based on my experience

this kind of approach is interesting; students are interested in the study ...sometimes, I do group work, more assignments and do a lot of work outside, I need them to feel the experience, so when they go outside they feel like real entrepreneurs. The students are also encouraged to meet people, to interview successful entrepreneurs and so on' (Mgt 2:P5)

The statement above implies that the majority of respondents favour teaching methods that are practically based. The study found that 80 percent of respondents in the interview agreed and suggested that entrepreneurship should be taught using practical methods rather than being lecture-based. Interviews with polytechnic lecturers and students revealed that they really need the practical basis for teaching and learning entrepreneurship. According to the Focus Group discussion, *'this method is more practical and students enjoy it and lecturers just monitor them as facilitators'*. The observation in the classroom found that the lecturer in PUO used the teaching aid to encourage students during the teaching and learning process. The use of paper cuttings featuring business and entrepreneurial figures displayed in the classroom does indeed motivate students to become entrepreneurs. However, this method needs to be changed from time to time to avoid the display material becoming outdated.

In the interview session generally, polytechnic lecturers and directors expressed the view that they prefer to teach entrepreneurship based on practical methods rather than as a theoretical subject. Their arguments were based on the assumption that this subject is more related to business practices rather than being theory-based. In keeping with the views of the focus group, interview respondents agreed that practice is more effective than theory. The director of the Curriculum Development Division insisted that *'...the teaching method of this subject should be changed to be more practical, not theory-based'*. However, one expert from UUM asserted *'We can't deny that the theoretical aspect is still important'*. Upholding this view, the INSKEN Director suggested that lecturers should teach theory and real entrepreneurs should handle the practical side. She expressed the following views:

'The theories of entrepreneurship must be taught first. But you also need to give motivational input to the students by inviting successful entrepreneurs to share the ups and downs of business. Also to share how they overcame any obstacles that came about when they were just starting their business, so that this input would open up students' closed minds' (Mgt1:M1)

Explorations of the effective methods were enhanced by explanations of the different techniques that could be used when teaching entrepreneurship in Malaysian polytechnics. From the interviews and discussions, it is obvious that the ideas of university lecturers are more relevant and practical compared to those from polytechnics. From my work experience, this might be because respondents from universities are more experienced, more expert and senior compared to polytechnic lecturers who are young and junior in service. Overall, universities appear to be more established in planning entrepreneurship activities compared to polytechnics which are still in the earlier stages of entrepreneurship education.

8.7.2.2 Problem-Based Learning (PBL)

This study found that the PBL technique is not familiar in Malaysian higher learning institutions where entrepreneurship is taught. As recorded in the researcher's list in NVivo, PBL was not a "favourite" method of learning, especially in polytechnics. PBL was mentioned only 15 times in all interviews and focus group discussions; it is different from the other methods, which were repeatedly referred to by the respondents. In-depth analysis and interpretation of responses regarding teaching methods showed that PBL was not explicitly stated, but was identified indirectly as mentioned below:

'The curriculum is made-up of selected problems and will require students to possess critical knowledge, problem solving skills and group working skills. The staff or lecturer will act as a mentor and facilitate the students' (Cexpl:L1).

In my interpretations, this quotation refers to PBL whereas the concepts are mentioned, for instance, the words "problem", "critical knowledge", "problem solving", "group working", and "facilitate". This wording identifies PBL as one of the approaches used when teaching entrepreneurship in Malaysian higher learning institutions. Based on this I notice that this approach is already practiced in polytechnics but the lecturers are not aware of that. However, this technique was emphasised in Universiti Malaysia Kelantan where students needed to apply skills that were being taught in order to solve a problem given by the lecturer.

8.7.2.3 External Lecturer/Guest speaker

Some polytechnic lecturers believed that external lecturers are more effective in teaching entrepreneurship. Their expertise and experience as real entrepreneurs is an advantage when it comes to expounding the real situation of entrepreneurship to the listeners. Also, students are able to confront them directly, for example, by asking them about the challenges facing entrepreneurs, the ups and downs in the business world and, perhaps, how to start a new venture. All the polytechnic lecturers believed that the use of outside lecturers was a good way to convey information based on their expertise in entrepreneurship. Their views are concluded below:

'We invite entrepreneurs to be a lecturer, and then we let students ask the questions directly to them. Of course they get real information from the entrepreneurs, because we are not entrepreneurs, we can only teach the theory but the reality and the current practice issue is from the entrepreneurs themselves' (MAS: FG: L1).

The same question was posed during the interview sessions. The study found the same idea expressed by the interviewers. For instance, National Entrepreneurship Institute (INSKEN) a training provider specialising in entrepreneurship had practice in this method. The INSKEN Director mentioned that:

'In this course, they also invite successful entrepreneurs to give motivational talks, invite people from Malaysian Commission of Companies or Suruhanjaya Syarikat Malaysia (SSM) to explain how to start up a Limited Company or an Enterprise Company. We would also invite all the available funding agencies like MARA, SME Bank, SMIDEC, TEKUN' (Mgt1:M1).

This idea is in line with the suggestion of PUO head of Commerce Department who suggested the possibilities in using a Time Sector Privatisation (TSP)²² budget to implement this method.

²² The TSP programmes, which allow polytechnic staff to use the polytechnic facilities to conduct tailor-made courses for the industries outside teaching hours, offer valuable industrial exposure to staff, generate income, and optimise the utilisation of resources. This has been effectively implemented since 1992, and should be further stepped up. From <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN018039.pdf>

8.7.2.4 Exploratory Technique

A new technique was suggested by one of the experts from a university, who suggested that entrepreneurship should be learned through the exploratory technique. This exploratory study shows the relationship between entrepreneurship and life work. This technique consists of practical skills and communication skills, and students have to be active in completing their assignments. Sharing her ideas regarding this matter, UKM expert 2 explained:

‘Exploration and discovery, so entrepreneurship cannot be taught like teaching in class. You can introduce this technique to them, and you must give them an activity to go out. Let them go out and find something and come back. And that discovery is important because it is similar to what we entrepreneurs are doing. A lot of business people have an entrepreneurship business background but they still discover, discover and discover’ (Cexp2: L2).

Interestingly, this method needs initiative from the student when they have to attempt to find out information in the light of the guidance provided by the facilitator. In this context, the lecturer becomes a facilitator; he/she gives an instruction, then monitors and assesses until the project is completed. The concept of learning in the real world of business may enable students to be more thoroughly exposed to entrepreneurs. The technique of internship and interviews with successful entrepreneurs could easily be monitored by a log book report, as a substitute for supervising a number of students who are located in various places. This idea was added by the experience of MAS Director.

‘If we want to produce entrepreneur, one of the methods is for the student to be adopted by a seller to work in their stalls or shops, or to adopt this student to rich people. This will create an awareness of entrepreneurship in the students. So, nowadays the method has been changed we no longer have the old style of adoption must be to a poor society in the village’ (Mgt1:P10)

Universiti Malaysia Kelantan (UMK) with the motto ‘Entrepreneurship is Our Thrust’ has in fact, already undertaken this approach in their programmes, SIEP. According to UMK the Dean of Business and Entrepreneurship Faculty:

‘Students in Enterprise Program’ (SIEP) is one programme which required students to be accommodated by a few business organisations every

semester break for a period of 1 to 2 weeks so that they are exposed to corporate entrepreneurship culture' (Cexp1: L5).

In this programme they have to find out for themselves how to survive, they are in the culture of an entrepreneurial family so that they learn from real situations: living and working as entrepreneurs.

8.7.2.5 Outside the Classroom Techniques

In interviews with the heads of department in polytechnics, 60 percent agreed that entrepreneurship should be taught in real-life situations. For instance, most of the polytechnics had organised study visits to stimulate the interest of students in entrepreneurial activities and to expose entrepreneurship as a career option. The entrepreneurship coordinator from PKB stated that she 'organises trips to any small-medium industry' to expose students to the actual world of work. The majority of the respondents agreed that such activities make students enjoy the subject, rather than finding it wearisome in the classroom where they are required to follow lessons on entrepreneurial theory and concept. The argument above was supported by the following view from a respondent:

'This means that IPTA/IPTS need to create programmes outside the normal classroom. There is a need to be outside the classroom programme to assist the students. If students are not taught and exposed to organising and handling a programme, the students will face a big problem in business world upon their graduation?' (Mgt2: P3)

8.8 Entrepreneurship Training

8.8.1 The Lecturer

The lecturer is one of the key elements that distinguish the successful teaching and learning objectives of such a curriculum. Some issues arising in relation to this matter are the following: what are the characteristics of a lecturer who is capable of teaching a course in entrepreneurship? Should he/she be a lecturer or an entrepreneur? How can the quality of the lecturer be improved? In the first place, the results of the study found that 90 percent of the respondents agreed that lecturers in entrepreneurship (whether in a university or a polytechnic) were not capable and lacked experience. All heads of

department and directors in polytechnics and content experts from universities acknowledged that this was the reality. For instance MAS head of department expressed this view in the statement below:

'Our lecturer basically is less exposed to the actual environment of business. In order to have a competent lecturer, the training course or something like an internship programme should be planned for them. I believe that this kind of training will help them be more confident when teaching, more stimulating in their class and that is the how we encourage our lecturers' (Mgt2:P5).

This study found that two thirds (75 percent) of respondents agreed that a lecturer rather than entrepreneurs should teach entrepreneurship. According to PPD head of commerce department:

'...even entrepreneurs cannot be a good lecturer because they don't have pedagogy but have skills and experience. So, if we can combine knowledge, skills and experience and put inside the lecturer's head, it is excellent. Then, we will have a very good lecturer and of course our teaching and learning will be productive. We are looking on this kind of particular lecturer.' (Mgt2:P4)

To support this argument, a university professor says that *'the instructor must be innovative, must be creative and must be assertive. That is what we are lacking'* (Cexp1:L3). The researcher found that it should be a combination of effective teaching methods and an excellent lecturer to ensure entrepreneurship is taught effectively. Polytechnic students and lecturers were asked, *'What should be the characteristics of lecturers in this subject?'* Students thought they should be Commerce lecturers. Their ideas are reflected in this comment:

'I think a commerce lecturer is better compared to others. The reason is they have a basic knowledge about business, about entrepreneurship' (PPD: S1);

'Commerce lecturers, because they know about finance, marketing and accounting. So without this knowledge it is not easy to teach it to students' (PPD: S2);

The above finding is in line with the group discussion with lecturers, all of them agreed that it is not appropriate for non-commerce to teach entrepreneurship because they have

no idea about accounting, marketing and so on. Therefore it is better for commerce lecturers to teach this subject. The ideal entrepreneurship lecturer should:

'...have a business background, know accounting, know about marketing' (MAS: FG: L2);

'...be experienced in teaching entrepreneurship' (MAS: FG: L4).

Another point raised by lecturers is that they would prefer entrepreneurship lecturers who own a company or are involved directly in business, whether as sole proprietors or as partners. *'There are some lecturers who run their own business, like opening up a counter at the students' alley, opening up a business during convocation day or business day and sending their products to the cooperative shop' (PPD: FG:L3).* In addition, respondents agreed that lecturers should be characterised by a strong work ethic, be confident when making decisions, possess leadership characteristics, be team workers, and also be able to network and be creative and innovative. Therefore, a special programme of training should be set up in order to have excellent entrepreneurship lecturers.

8.8.2 Training the Trainers

This study found only 10 percent of the respondents declared that they had attended a proper course on entrepreneurship. In other words, they really need a special course for entrepreneurship. According to a UUM professor, the lecturers must have embedded entrepreneurial characteristics, and they must be trained (Cexp1:L3). Based on the group discussion, all agreed that they need the training the trainers course. Currently all these things are conducted using their own initiative as mentioned below:

'Like me myself, my senior is Ms Mahazam, she has the MA in entrepreneurship, so I observe her for almost 2 semesters and I really like her style, her topic, and her marking scheme. I learnt a lot through my observations; certain people say that we only have to read the module in order to teach the subject. Actually, I disagree' (PUO:FG:L2).

There are a number of reasons given by the lecturer to justify why they really need TOT; these include changes of technology, lack of experience, lecturer is not an expert in the field, and the fact that it is difficult to gain knowledge.

'TOT. I'm shy to say that I underwent the training of trainers twice in the last 2 years. But, when asked to teach my friends back here, it was quite difficult. Maybe they said that I'm trying to show off. Early last year I went for a TOT course under MEDEC with my friend, then, once again, at Bangkok. There, I got a lot of knowledge to share with friends. But I don't really teach entrepreneurship, only when it's really needed, then only I'll teach, because I do have a passion for teaching. That's why I'm willing to teach my friends, yet people say that I'm boasting, whereas actually I like to share because I think that I've gained so much knowledge from those 2 times I went for the TOT on entrepreneurship' (PUO:FG:L1)

The statement above shows that the in-house training problem happened in such an institution. The paradigm shift in polytechnic lecturers' minds should be rejuvenated. The concept of sharing knowledge may be useful for the process of transferring knowledge between staff members. The next issue arising here is whether to train commerce lecturers or all the lecturers who are interested and willing to teach entrepreneurship. This issue emerged in university and polytechnics as mentioned by the content expert:

'We try to train lecturers to teach entrepreneurship in every department. There are seven or eight faculties in this university. There are only a few lecturers in the respective faculties that can offer the entrepreneurship course because the lecturers are not competent. So, it needs my lecturers, science lecturers and English lecturers in the faculty to be trained in understanding entrepreneurship in order to help us teach the entrepreneurship course to all university under graduates. You can imagine how many lecturers this involves, without them it is going to die. So that is the problem we are having with lecturers right now' (Cexp1: L2).

However, in the polytechnic system internship programme places are very limited. Based on the current training policy, only 6 percent of the lecturers are eligible under this scheme. The ideas shared by the policy director are useful regarding this matter:

'I believe that our lecturers can still enhance their knowledge and skills by attaching themselves to the relevant industries, and to successful entrepreneurs. At the moment not many of the lecturers are given the opportunity or have time to do that because we are limited to about 50 places per year. Giving a bigger proportion of our staff the opportunity to pursue the attachment for 3 months will help them to understand better and hopefully they can teach our students to appreciate entrepreneurship from their exposure' (Mgt1:P4)

8.9 Entrepreneurship: The Challenge

8.9.1 The Lecturers

In the education institution, lecturers or instructors play an important role in terms of transferring the knowledge to students. Conceptually the objective will be achieved at the end of the lesson via measuring the behavioural change of the students. Whether students behave appropriately or not is strongly dependent on the efficiency and creativity of the lecturer and his/her capability to handle the class during the teaching and learning process. However, institutions face a challenge in producing such efficient and creative lecturers.

This study reveals that all (100 percent) polytechnics are facing a similar problem: shortage of lecturers in the commerce department. This is a fact acknowledged by all heads of commerce departments during the interview session. According to them, they are unable to teach entrepreneurship to other departments because of lack of lecturers in the commerce department. The following statement describes this phenomenon:

'Most of the other departments are unable to cater for this module due to a shortage of lecturers, and sometimes they request lecturers from the Commerce Department. The only problem with this department is that we too have an inadequate number of lecturers. So we would suggest out-sourcing based on 10 percent of the budget. That we can do. Maybe the shortage of lecturers is because the subject is an elective subject, and this condition does not allow us to ask for extra lecturers' (Mgt2:P2).

The assertion above is in contrast to the statement made by the DPCCE Deputy Director General. He thought that the reason they do electives is the shortage of lecturers and not because of the status of the module itself, which is an elective. He argued that:

'We now do it as an elective because of staff constraints, because when we want to teach entrepreneurship to all of the programme, our entrepreneurship lecturers are from commerce, but at present capacity, with the strength of the lecturers, we cannot manage if we introduce entrepreneurship as a special module. To teach entrepreneurship to all students I think we need more staff. It can be used to teach this programme and at the same time I believe entrepreneurship can be effectively taught' (Mgt1:P2).

8.9.2 Curriculum

The initial problems encountered in the subject concerned the process of curriculum development and did not consider the opinions of stakeholders; specifically they were not concerned with the views and experiences of polytechnic lecturers. Consequently, right after the launch there were comments. For example, PSA lecturers commented that the entrepreneurship curriculum is too rigid and does not provide space for students to develop their ideas. Interestingly, opinions from university lecturers should be considered, as the comment from the UUM expert 1 in Paragraph 8.4.2 makes clear. In his view the curriculum should be flexible, not structured in the same way as other curricula. The second issue traced in the study concerns the validity of the curriculum and the facilities offered by the modules. This issue was raised by the following comments from polytechnic directors:

'There is no opportunity for the institution to give feedback, to give ideas on the curriculum before it is implemented. So, sometimes we may end up with curriculum that specifies certain equipment which that institution may not have and so it is not able to conduct the part of curriculum.' (Mgt1:P7).

The most important issue in developing a curriculum is whether to incorporate entrepreneurship curriculum as cross-sectional modules or offer the module as an independent subject. As noted by Charney and Libercap (2003: p.386), approaches to entrepreneurship education have varied across colleges and universities from offering single courses in new business development or business plan preparation to integrated curricula include marketing, finance, competitive analysis and business plan development. In addition, Smith *et al.*,(2006) stated that there are many challenges to be faced when embedding a programme. Academics will be challenged to learn and develop new skills; programme leaders and validation panels will be challenged to find assessment methods that will meet the needs of university regulatory bodies while maintaining the ethos of the programme; it may be difficult in a busy timetable to find room for a resource intensive programme; entrepreneurs and educators have problems in delivering the subject; and the cost of delivering such a programme may also be prohibitive

8.9.3 Management Policy

The top and bottom of entrepreneurship education is that it relies on national long-term

policies such as the five year Malaysian Plan, the National Development Plan and Vision 2020 as mentioned in the earlier chapter. In fact, in the 90s entrepreneurship was not as important as other economic and development policies. However, it was suddenly revitalised in the 2000s; entrepreneurship was back on the agenda whenever unemployment among graduates could not be resolved. The confusion and misunderstanding regarding entrepreneurship amongst management and staff presents implementation problems for the entrepreneurship programme in Malaysia. In this study, most university staff experienced problems pertaining to this matter; they acknowledged it by stating that:

'What I can see here is management problems. For example, the restructuring of the Malaysian Entrepreneurship Development Centre (MEDEC),..... Actually the problem comes from management who are clear at the top level about the actual issues. But now, I think it should settle down when the government focus is again on entrepreneurship, so training centre like MEDEC should be revived. ' (Cexp1:L6)

The statement above implies that there is no agreement or understanding within government policy about entrepreneurship among the administrators in universities. Based on this, entrepreneurship education could not be expanded as stated in the government policy: Chapter 11 in Ninth Malaysian Plan. A UMK expert supported this argument in the following statement:

'First, understanding cultures and people is not an easy job, I tell you. One day you can understand, the next day you'll forget everything. Because in their actions, we say that entrepreneurship needs to be supported, needs to be nurtured, and whenever we want to make a program there is always the do and don'ts, things to be requested and things to be approved. So, we go back to the old bureaucracy stand-off, which is so difficult' (Cexp1: L5).

The second issue perceived in the formulation of entrepreneurship education is bureaucracy or red-tape regarding administration. This kind of problem will obstruct the development of entrepreneurship in such institutions. Secondly, the lecturer will find the alternative way of solving this problem, which is to do nothing.

8.9.4 Co-operation

In bringing about a successful plan, co-operation and support from every single side of management and staff is very important. Support from the top management and

cooperation among colleagues will contribute to the success of the programme. In view of what has happened this is not an easy task. Accordingly this study found that polytechnics faced the problem of a lack of support especially concerning funding and colleagues. The statement below elaborates this as shared by MAS head of department:

'Monetary support is not 100 percent, I can say that. And I had one experience when I was teaching entrepreneurship to a student from another department. We asked the student to do some projects, we did not even get any or 100 percent cooperation from the respective lecturers, meaning that they did not allow this student to do the entrepreneurship project. Sometimes they don't understand what entrepreneurship is, so this becomes a problem. So the administrator should be aware, if they want to implement the policy, they must make sure the order is clear.' (Mgt2:P5)

Due to the internship programme, 75 per cent of respondents are not satisfied with the cooperation from the private sector. This issue emerged in universities and even in the polytechnics, especially for the long-term projects such as three months. For example, one of the experts expresses his feeling on the industry people:

'... is not very encouraging. In fact if we ask them to make apprenticeships for our students, it's hard to get it. They prefer to think what they will gain if they make cooperation with us...they forgot about their social responsibilities. It happens to the giant company especially from the outsider company, so that is the problem' (Cexp1: L5).

8.9.5 Funding

Study found that most of the institutions faced financial problems. The reality hits when students want to start a business either during training on the campus or right after graduation. According to an INSKEN Director *'Financing becomes a problem because it is not automatic in the training package unless they have their own money, or money collected from their family, or joint ventures with friends'*. Secondly, during interviews with heads of commerce departments, 80 percent of them acknowledged that the main cause of financial problems was co-ordinating the activities and programmes in polytechnics. According to them, there is no special budget allocated to entrepreneurship programmes even if they are directed to implement those activities. Findings from the focus group discussion with PUO lecturers verified that they have to use their own creativity to get funding such as creating a classroom fund, asking for donations from the private sector, and more. In other words, finance or funding is the

element that needs to be considered as crucial and of paramount importance.

8.9.6 Networking

Networking helps entrepreneurs in developing the opportunities into marketable products and it may provide the entrepreneur with the required resources (Brand *et al.*, 2007). Study found that 90 percent of the interviewees acknowledge that students networking are weak whether in universities or polytechnics. This assertion is simplified by two university experts:

'Networking is very poor, communication skill is very poor, students don't have self confidence, they are not creative and not innovative enough' (Cexp1:L3) and 'Networking among the Chinese students is more workable compared to Malaysian students in terms of searching for a job' (Cexp1:L1).

The statements were gathered from two professors during the interview. These remarks were supported by a majority of respondents and they acknowledged that networking is the most important aspect especially for doing business. The importance of developing local network contacts has been highlighted by a number of authors (Johannisson, 1991).

8.9.7 The Curriculum Monitoring System

All of the respondents tend to agree that the curriculum should be monitored by a standard management system, which is ISO 9001²³, with the assistance of expertise from the curriculum and management divisions. In addition, internal monitoring, conducted by polytechnic deputy director, head of department and head of the unit which is continuously in practice. The process of monitoring includes checking the semester teaching planning (STP), equipment and procurement of teaching aids and the learning process in the classroom. In DPCCE, the interest of monitoring is dependent upon the jurisdiction of the Division, for instance Polytechnic Management Sector (PMS) function is to observe on the delivery system as mentioned by his director:

"We audit the delivery of the programme in the polytechnic. Delivery does not just mean the curriculum being implemented, on top of that how the

²³ ISO (International Organisation for Standardisation) is the world's largest developer and publisher of International Standards. ISO is a network of the national standards institutes of 159 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.
http://www.iso.org/iso/about/discover-iso_what-standards-do.htm

lecturers are teaching the class, how they perform in the class, the evaluation, the timetabling, all of this has been monitored by our division here.”(Mgt1:P2).

However, the issue regarding the curriculum is monitored by the Curriculum and Evaluation Division (CDED). The scope is curriculum validation, curriculum equipment and space in the learning process. This is in line with the idea shared by the Director General:

“ISO did make mention on certain overseeing which ought to be adhered to. Curriculum overseeing is supposedly done by the PMS academic department. CDED will oversee on the validity of the curriculum, which means that the CDED is actually overseeing the curriculum, developed by them. This is called curriculum validation. This is also to ensure that the curriculum developed can be used by all institutions under DPCCE.” (Mgt1:P1).

Instead of that, 70 percent of the respondents agree that the curriculum should be monitored by ISO, and 60 percent agree it should be monitored by CDED. In sharing her view in this point, a Port Dickson Polytechnic head of department gave her idea:

“ISO play the role in checking Semester Teaching Plan (STP), we use ISO check-list to determine whether it complies or not. Indirectly we have been monitored by the ISO. The monitoring also should come from DPCCE, but the outcomes should be informed to the academic unit, under PMS (Polytechnic Management Sector). Curriculum Division have to validate the curriculum because they develop all the things, they should do.” (Mgt2:P4)

However, 10 percent of respondents have a difference of opinion over the method of monitoring especially by sending somebody from headquarters. One of the heads of department expressed his dissatisfaction regarding this matter by his words:

“There can be lots of problems due to excessive monitoring; lecturers are not that happy because the world would like to observe him doing his job, he has no freedom. What is then the lecturers’ freedom? ISO is sufficient enough, but there are more things to add. We can amend our own ISO, but we came up with other procedures.” (Mgt2:P3)

In another point, he reveals that overlapping of the curriculum monitoring between headquarters’ and institutional observation occurs. In addition, he added that there are too many forms and reports that should be complied with and those entire situations will give an extra job to the lecturers. This issue will be discussed in detail in Chapter nine to perceive the relationship to the power distance index as stated in the literature review.

8.10 Conclusions

The lecturer group from PUO disclosed that it is difficult to acquire co-operation from the private sector particularly in conducting the internship programme. The interview with the group of lecturers found they agreed that polytechnics have a problem of a shortage of commerce lecturers. Lecturers from PPD added that red tape (bureaucracy) procedure is very strict as it appears in the implementation of the entrepreneurship curriculum. In addition, PSA lecturers added that capital has become most important in teaching and learning entrepreneurship in practice. To conclude the discussion above, the ideas from one discussion with a PSA lecturer proved very useful. He stated:

'Actually, we do have restrictions, after the 6th semester we have lots of restricting, bureaucratic rules on getting capital..... No financial institutions would want to offer loans if there were no collateral. If we were to look at government agencies that can provide capital, they also have certain rules to be adhered to. They would not release the loan so easily to graduates. Government needs to assist by making it easier for graduates to obtain loans. It is good to have entrepreneurship subject in IPT but it wouldn't work if it's not eased a bit.' (PSA:FG:L1).

All these issues, bureaucracy, understanding, support, finance, lecturers, and co-operation will be discussed in depth in the next chapter in order to answer the research questions from Chapter 1.

CHAPTER 9
A DISCUSSION OF THE
ENTREPRENEURIAL TENDENCY OF POLYTECHNIC STUDENTS

9.1 Introduction

This study has identified some of the issues associated with developing entrepreneurship education in Malaysian polytechnics. The findings will illuminate the research questions in line with the research objective proposed in Chapter 1. This chapter will discuss some of the major themes emerging in the study: curriculum, pedagogy, administrations, and cultures. From this point, the findings will be thoroughly discussed and elaborated further with the assistance of the supporting literature. The models presented in the literature review were in preparation for the discussion chapter to analyse the gap between the findings and the model proposed in the study. These support the formulation of a new curriculum to improve entrepreneurship education in polytechnics. Malaysian polytechnic entrepreneurship education model will be developed based on the findings of the study.

Answering Research Question 1:

9.2 Entrepreneurship Education in Malaysian Polytechnics

9.2.1 Introduction

In general, entrepreneurship education was identified as all activities and programmes related to students in polytechnics. It can be studied through a list of entrepreneurial behaviours, attributes and skills (Gibb, 2005). This covers formal teaching and curriculum and informal events such as industry visits. A special programme such as “entrepreneurship incubator” which was planned by the institution becomes an important approach in polytechnics. Those activities are expected to be capable of playing an important role in nurturing students in entrepreneurship skills, knowledge and culture in the polytechnic educational system. The discussion below converges in the research question 1 “*How does current entrepreneurship education encourage the development of entrepreneurship characteristics in students?*”

9.2.2 Entrepreneurial Characteristics at a Glance

Chapter 7 discussed the General Enterprising Tendency version 2 (GETv2) Test which involved 506 students from the five polytechnics. The respondent students were examined based on their course of study, age, gender, experience and family background. The findings report that “the majority (59.1 percent) of polytechnic students in Malaysia are *less* enterprising and 40.7 percent are recorded as *occasionally* enterprising and only 0.2 percent are *highly* enterprising as shown in Table 7.6, Chapter 7. The GETv2 test illustrates that polytechnic students are *less* enterprising with the mean score at 25.53” (see Table 7.3 in Chapter 7). These signify that polytechnic students appear to have a lower propensity to be entrepreneurs; in other words they prefer to be an employee after graduation.

Table 9.1 The General Enterprise Tendency of a Sample of Under Graduate and Polytechnic Students

Group	Mean and Standard Deviation	Need for achievement	Need for autonomy	Creative tendency	Calculated risk taking	Internal LOC	Enterprising Tendency	n
Under-graduate*	\bar{X}	7.85	3.24	7.48	7.01	7.61	33.20	661
	SD	1.99	1.30	2.21	2.24	2.11	6.29	
Polytechnic**	\bar{X}	5.42	3.83	6.16	5.20	4.91	25.53	506
	SD	1.84	1.36	1.79	1.73	1.77	4.63	

Source: *Adapted from Cromie (2000) ** Findings from the study

Table 9.1 above is based on standardised norms as mentioned in Chapter 7. It illustrates that students in the previous study by Cromie (2000) are *occasionally* enterprising, meanwhile polytechnic students are *less* enterprising in a similar test. This is in line with the earlier study by Cairds (1991) which showed a similar result. She found that business owners/managers score higher on measures of enterprising tendency than teachers, nurses, clerical workers, civil servants and lecturers and trainers as shown in Table 7.4. See Paragraph 7.3.1 in Chapter 7. This finding is supported by Koh (1996) who in his study found that entrepreneurs are more highly enterprising than non-entrepreneurs. On the other hand, the finding shows that polytechnic students have a slightly higher need for autonomy characteristics. This indicates that these students are independent, preferring to work alone, self expressive, individualistic and unresponsive

to group pressure (Cairds, 2008b). Accordingly, this result relates to the difficulty of teaching them in groups on the importance of entrepreneurship in education.

Therefore, it might be concluded that the majority of students score in the lower band in the GETv2 Test compared to the other respondents. Thus, in order to perceive entrepreneurship as a successful development in polytechnics, the second group comprising 40.7 percent of students who are *occasionally* enterprising should be tackled. With a special programme of encouragement, support and motivation, it may be that these students can be encouraged to change their attitudes and to become more interested in entrepreneurship.

9.2.3 The Curriculum

In terms of curriculum, it could be concluded that polytechnic students, especially non-commerce students, are not interested in studying an entrepreneurship module. This is due to two reasons. Firstly, it is strongly related to the nature of the curriculum which is too theoretical to grasp. Some students also find the curriculum too outdated and obsolete to be relevant. Secondly, the activity and programme implemented in the polytechnics failed to develop an entrepreneurship culture. The activity such as an extra-curricular activity listed under Paragraph 8.6. This issue will be discussed in-depth in Paragraph 9.3.2. However, the ineffectiveness of the module is not totally caused by the curriculum itself. It may relate to other major factors such as support from administration, government policy, and the Malaysian culture respectively.

9.2.4 The Activities

The qualitative study also found that the activities implemented in polytechnics are capable of creating awareness among polytechnic students. For instance, activities such as a business try out during graduation day, visiting successful entrepreneurs and inviting lecturers from companies; indeed enabling students to get more exposure to the real world of work as entrepreneurs. Another activity that usually takes place in polytechnics is visits from guest speakers who are normally industry people or successful entrepreneurs. Interestingly some of them are in the polytechnic system. The

entrepreneurship club is responsible for managing these activities such as seminars, sales activities on graduation day, study visits etc.

9.2.5 The Programme

Obviously the 'entrepreneurship incubator' as mentioned in the Chapter 8 was considered an incomplete project due to financial problems. The study also found that there are efforts to set up an 'entrepreneurship centre' in the polytechnic system. However, this programme was perceived unsuccessful due to problems such as the commitment from administrators and the financial problems. Paragraph 8.2.5 discussed this issue in detail. The example of UMK with the special programme, namely SIEP, perceived smoothly moving on the right track, however the success of the project is still unclear due to this programme still being under the 'pilot test'. 'Tunas Mekar' entrepreneurship programme is an example of collaboration with the Prime Minister's Departments Implementation Coordination Unit (ICU) and is based on a smart partnership concept involving small and medium entrepreneurs, UiTM graduates and lecturers. The programme, mooted by Abdullah²⁴ in 2005, has been successful in creating entrepreneurs among UiTM graduates (Bernama, 9 January 2009). In the UK, the incubators project, namely Future University of Surrey (FUSE), was proven successful as illustrated in Paragraph 2.5.5.1.

In addition, instead of a western model, the new model has emerged in Asian countries such as China and should be an example for Malaysia. As discussed in Chapter 2, in Beijing Aerospace University the university has created a campus-based, student venturing park and set aside \$3 million as a dedicated business venture fund. It also set up a business venture training institute where courses such as business venture management, business plan writing as well as new venture creation advice and support is on offer (Jun Li *et al.*, 2003). Related to this issue, entrepreneurship centres become an important agenda in Malaysian polytechnics.

²⁴ The fifth Malaysian Prime Minister (31 October 2003 – 3 April 2009)

9.2.6 Networking

The polytechnics also cooperate with other agencies, for example MECD, ANGKASA, and local government or local authorities. These kinds of activities will ultimately give students an exposure to the real world of business and at the end motivate them to be entrepreneurs. However, these programmes are still their infancy and need to be maintained to reach the aims of entrepreneurship development in polytechnics. Elsewhere, cooperation with industry needs to be strengthened. A few problems regarding the relationship with industries are reported in Paragraph 8.9.4, need to be tackled. A programme such as Industrial Dialogue should be enhanced. Lastly, cooperation with the international entrepreneurial agency, which is more advanced, needs to be explored. The experience from other developing countries, such as China, is an important asset for the country.

9.2.7 Summary

To be successful, entrepreneurship education (curriculum, activities and programmes) should be enhanced in polytechnic systems because it is proven to encourage students towards entrepreneurial tendencies. This is in line with Charney and Libercap (2000) who found that entrepreneurship graduates are three times more likely than non-entrepreneurship graduates to start new business ventures. Reflecting back to the research question above, it appears that entrepreneurship education in Malaysian polytechnics does not encourage enterprising tendencies in students.

Research Question 2

9.3 Entrepreneurship Curriculum in Polytechnic

9.3.1 Introduction

Chapter 1 exposed a number of problems with the entrepreneurship curriculum: lower levels of entrepreneurial knowledge among students at higher education institutions in Malaysia; ineffectiveness of the curriculum; and a need for revision of the curriculum due to changes in environment and technology. The result in Paragraph 8.3.2 above inevitably relates to the essential nature of the entrepreneurship module itself. For example, a few problems concerning objective, content and assessment arose in the interview regarding the curriculum. The various perspectives of respondents will be discussed and integrated in order to produce an effective curriculum for the next paragraph. A research question related to this issue is *“Do you consider that the current entrepreneurship curriculum in polytechnics is effective?”*

9.3.2 The Entrepreneurship Module in polytechnics

9.3.2.1 R2001 Co-curriculum

Table 3.2 in Chapter 3 shows the content of the current entrepreneurship curriculum which is incorporated as part of the content in this module. Accordingly, a few issues emerged such as time requirements and contact hours as discussed in the preceding paragraph. Based on my observations, this topic has not been taught properly. The reason is this module is not an academic module and it is a part of the syllabus in co-curricular modules. Additionally, it is complicated to monitor its implementation due to the time of the class not being properly fixed and the topic not being specifically mentioned in the timetable.

Firstly, respondents argued there were insufficient contact hours; only four hours were allocated to discuss a topic “about” entrepreneurship. This idea is confirmed by an analysis of the module objectives. This study found that the objective is too ambitious and difficult to achieve within the given timescale. The research confirmed that time allocated for the entrepreneurship topic is too limited when compared with the curriculum content and objective. The four hours allocated in the Co-curricular Module

(R2001) obviously triggered dissatisfaction amongst both students and polytechnic lecturers. This matter was disclosed in focus group discussions with the lecturers. Almost all of them acknowledged that the objective, the content, and the time provided for teaching the module was not adequate for achieving the module objectives. In addition, my observations have revealed that the entrepreneurship “section” is not implemented seriously. The assertion below was made during the interview mentioned in Paragraph 8.3.2.1.

The second issue to be identified was that the entrepreneurship curriculum is not being taught by the lecturer. This issue was revealed in the following comment made by ex-students in a focus group discussion “R2001, in the polytechnic it’s quite free; like us in the Red Crescent Club, they teach about survival and they don’t teach about entrepreneurship’. In my view the problem occurs and spreads in polytechnics due to ineffectual monitoring of curriculum implementation. The majority of polytechnic directors even admitted and believed that the International Organization for Standardization (ISO) and internal monitoring is insufficient. It appears that there is a gap that needs to be tackled by DPCCE. Continuous inspection and monitoring of the module should be planned in these institutions. It might be concluded that a majority of respondents tended to agree that this module is not effective. Subsequently, this module should be revised, reframed, or revoked and another module introduced accordingly.

9.3.2.2 P3117 Entrepreneurship

The ineffectiveness of the module also relates to what extent the module is important to the institution whether it is to fulfil the national agenda or to nurture entrepreneurial knowledge in students. Chapters 1 and 2 above mentioned the importance of this subject to the nation particularly as career options and simultaneously to solve the unemployment problems.

The interview and focus groups generally agreed that this module is effective. However, they have the same opinion that the curriculum is outdated; it does not meet standard requirements and needs to be reviewed (see 8.3.2.2). Hence, 90 percent of respondents suggested that the curriculum needed to be altered in order to respond to current issues. It should be flexible and include Information Technology (IT) as one of the topics. This group of interviews and focus groups also suggested that the curriculum content should

change and be more practical as mentioned in Paragraph 8.4.1. It was supported by McKeown *et al.* (2006) who found that less than 5 percent of the respondents agreed to totally theoretical courses, 25 percent offered a mixture of theory and practice, and the majority (57 percent) identified that they had a wholly practical focus. This, also, is in line with the suggestion by Richardson and Hynes (2008) who stated that educationalists should be aware that as the needs of a particular industry change, education should also change to ensure that entrepreneurship education focuses on real world issues that are relevant for industry and economic growth. This is becoming increasingly important and we must be prepared to modify our courses to cope with the changing economic landscape (p.189). Therefore flexibility of the curriculum is needed, as suggested by the experts in the paragraph 8.4.2.

The bold statement above shows the need for flexibility in the curriculum. A new teaching and learning method needs to be explored in order to produce a practical entrepreneurship curriculum in the polytechnic system. These challenges have to be considered by the entrepreneurship curriculum developer.

In terms of curriculum development, a few unexpected issues arose in the interviews. Firstly, the curriculum was developed by non qualified people. This issue was exposed by one of the professors who mentioned that entrepreneurship modules are being authored by non-academic staff. Moreover, this module will be used as a main reference nationally in Malaysian public universities. Secondly, the polytechnic curriculum has been developed by a “selected group” of people and the issue arising here is in regard to the validity of the contents. This group of people are normally involved in curriculum development due to their expertise of the particular subject. Even worse, in polytechnics a second opinion from the lecturers is not ever taken to validate the curriculum. However, this issue was tackled by the CDED Director who mentioned that the pre-test and post-test questions are usually run through before the curriculum is applied to the entire polytechnic. Pre-test questions referring to the new curriculum were tested in a small group of stakeholders: industry, lecturers and students. Their comment and feedback are useful for the refinement of the curriculum. Meanwhile, the post-test questions relating to the curriculum were implemented in only a few polytechnics. If these are satisfied it will be launched to all polytechnics at a later date.

9.3.2.3 P 3130 Entrepreneurship Development Module

The contents are shown in paragraph 3.4.2, Chapter 3 above. This study found that the entrepreneurship module in polytechnics was implemented half-heartedly. This assertion is made because of the way the subject has been offered, which is as an elective module. Study found that only one out of six heads of department shows his dissatisfaction regarding this matter as quoted in Paragraph 8.3.2.3. It appears that the module's ineffectiveness might be related to the way it has been promoted. Based on focus group discussions with lecturers, the majority revealed that they were not informed of the existence of this new module. Similarly, students acknowledged that there was no information regarding this matter. In addition, the study also found that the entrepreneurship module is not effective due to the elective status of the module itself: Entrepreneurship module (P3130). With insufficient understanding to the objective of the module, students feel this module becomes an extra load, finally burdening them. In handling this situation, the entrepreneurship module is suggested as compulsory for all students in polytechnics.

Overall the implementation drawbacks inevitably contribute to the ineffectiveness of entrepreneurship education especially for non-commerce students. If these matters remain unresolved, this dilemma might spread like a "cancer" through the polytechnic system. To overcome this problem, all the stake holders including management and lecturers should play their respective roles to ensure entrepreneurship education is formed in line with the government aims for developing the nation in 2020.

9.3.3 The Objective of Entrepreneurship Education in Polytechnics

In developing a curriculum, one of the important criteria that should be considered is the objective of the course, module or subject. Theoretically, the objectives are supposed to be measured especially the behaviour of the students upon completion of the study. The current objectives of entrepreneurship education in Malaysian polytechnics are depicted in Table 3.2 in Chapter 3.

Table 3.2 above shows the objectives²⁵ of the three modules researched in the study. Based on the literature, as illustrated in the research framework, the objectives of the study are segregated into two types: type one and type 2 (see Figure 3.3, Chapter 3). The qualitative study fulfils the objectives proposed in the framework above as shown in Table 9.3 below. It shows that the objective of type one focus on students should be embedded with entrepreneurial knowledge, skills and attitudes upon completion of studies. This type is in line with the view of Mgt1:P1 who proposes that the objective of entrepreneurship *“is not only to start off a business, but more towards education in soft skills like creativity, leadership, innovation and other features of an entrepreneur.”* These align to Anderson and Jack (2008) who recognised that some people might become entrepreneurs whilst others might not. They added the role of university is not necessarily to create entrepreneurs, but to make individuals aware of what entrepreneurship might entail, the issues entrepreneurs face and equip them with the knowledge to deal with these issues. In addition, the outcomes of industrial dialogue 2008, stated “entrepreneurs should be trained, not necessarily to run their own businesses but to enable them to use these skills in the organisations they are working with” (Industry Dialogue, 2008). The statements above need to be considered when developing a curriculum programme of activities in polytechnics, especially for non-business students. On the other hand, most entrepreneurial study aims at students becoming entrepreneurs as proposed in type 2: Business start-up or new venture. However, the previous study found that only 5 percent of students were capable of succeeding as entrepreneurs (Faustino, 2005). The interview with a UMK expert revealed that the UMK target aims at 20 percent of students becoming successful entrepreneurs. This target is based on the background of their students.

9.3.3.1 Model Analysis: Bloom’s Taxonomy

Bloom’s Taxonomy is usually used to measure the cognitive behaviour of the students as mentioned previously in Paragraph 3.6.2. Based on Table 3.2 above, it shows the objectives of the entrepreneurship curriculum. Verbs such as “create, enhance, generate, and identify” were used in the objective statement of the entrepreneurship curriculum. Based on the analysis by Bloom’s Taxonomy, firstly the verbs used in the statements do not clearly define the level proposed in the theory. Secondly, the objectives were

²⁵ P3117 and P 3130 is similar module in term of objective and content wise. It differs in the status of the module, which P 3117 is compulsory for commerce students and P 3130 is an elective for all students.

constructed based on cognitive domain only, affective and psychomotor aspects were ignored. This has some implications. It may identify that the verbs used in the objectives were as follows “create – synthesis; enhance – synthesis; generate – synthesis; and identify – knowledge”. It can be simplified by the table below:

Table 9.2 Bloom Taxonomy Analysis

Verbs	Bloom Taxonomy	Level
create	synthesis	Higher
enhance	synthesis	Higher
generate	synthesis	Higher
identify	knowledge	Lower

Table 9.2 shows that most of the verbs used in the polytechnic curriculum are in the higher level (analysis, synthesis and evaluation). In Bloom’s Taxonomy, the cognitive level for diploma students should focus on knowledge, comprehension and application, in other words at the lower level. Hence, it might be concluded that the existing entrepreneurship curriculum in polytechnics is too ambitious to be achieved. Why? Firstly, the curriculum developer is not being exposed to the method of curriculum development. Secondly, they are not knowledgeable in constructing curriculum objectives. Thirdly, it will affect the process of constructing the item questions in the evaluation process. This is in line with the university expert who claimed that entrepreneurship curriculum is not being developed by the right person, as reported in 9.3.2.2 above.

9.3.3.2 What should be the Objective of Entrepreneurship Education?

The objectives of entrepreneurship education are either to encourage Level 1 or Level 2 skills, knowledge and attributes. These are depicted in the table below derived from the findings of this study:

Table 9.3 Objective of Entrepreneurship Education Proposed in the Interview

LEVEL 1 (Entrepreneurial skills, knowledge and attributes)	LEVEL 2 (Entrepreneur)
<ul style="list-style-type: none"> ▪ to expose the students to the world of entrepreneurship ▪ to stimulate the student interest ▪ to create the spirit of entrepreneurship among the students ▪ to develop an entrepreneurial culture appropriate to the area concerned, apply the theory and managerial techniques in the entrepreneurial activities ▪ to nurture entrepreneurship knowledge and skills in our students; ▪ to produce entrepreneurs, or at least people who possess entrepreneurship characteristics ▪ to inculcate the entrepreneurship culture ▪ to expose or to provide knowledge to the students; to equip them so when they graduate, they have all the facts that they need ▪ to develop awareness and interest in entrepreneurship among students; to nurture entrepreneurship knowledge through entrepreneurship studies; to create and develop knowledge 	<ul style="list-style-type: none"> • to create an excellent entrepreneur in order to form a group of Malaysian entrepreneurs from various fields; • to instil the spirit of entrepreneurship in those who are really interested in becoming entrepreneurs • to produce competent entrepreneurs through education and training; • to produce high calibre graduates with the right attitudes and skills in entrepreneurship; • to produce graduates who are able to provide consultation, guidance and advice to prospective entrepreneurs and business owner-managers; • to produce graduates who are able to work as managers in financial institutions, governmental and non-governmental departments that serve entrepreneurs and business owner managers; • and to produce skilled programme developers and trainers who are capable of providing entrepreneurial and management training; • to educate students to be entrepreneurs and to not depend only on government jobs after graduation; to be an entrepreneur and not to be employed;

These objectives emerge from the qualitative study. The respondents were asked “Based on your experience, what should be the objective of entrepreneurship education in polytechnics?” Their responses were analysed as described in Paragraph 5.4 in Chapter 5 to identify the key themes, and further discussed in Paragraph 8.3 in Chapter 8.

Students in level 1 are expected to learn *about* entrepreneurship compared to level 2 which is focussed on training *for* entrepreneurship. In other words, the aim of level 1 is to provide entrepreneurial knowledge, skills and attributes, whereas in level 2 there is more focus on developing an entrepreneur. The objective in level 2 is in line with the findings of Garavan and O’Cinnéide (1994a). According to these authors the aims of entrepreneurship programmes include: to identify and stimulate entrepreneurial drive, talent and skills; to undo the risk-averse bias of many analytical techniques; to develop empathy and support for all the unique aspects of entrepreneurship, and to devise attitudes towards change. However in the first stage it is in line with Hill (1988) who

wants to increase awareness and understanding of the process involved in initiating and managing a new business, as well as increasing student awareness of small business ownership as a serious career option. In a Malaysian context, especially in polytechnics, the majority (90 percent) of respondents talked to in the interviews and focus groups were interested in producing student entrepreneurs. This fact can be rationalised based on government aims of entrepreneurship especially in alleviating unemployment amongst graduates in Malaysia.

9.3.4 The Content of the Entrepreneurship Curriculum

The content of the entrepreneurship curriculum is analysed through the model proposed in Chapter 3. Indirectly, it will validate findings demonstrating the ineffectiveness of the curriculum and the need for curriculum revision (see Table 9.4).

In general, the study found that most of the respondents agree that motivation and business plan are the most important elements in the entrepreneurship curriculum as stated in 8.4.2. This is in line with the study by Honig (2004: p.258). This study found that 78 of the top 100 universities in the US considered the development of the business plan as the most important feature of their provision in the area of entrepreneurship or small business management. It could be considered as education for start-up (Linan, 2007). However, Gibb (1997) questions the emphasis placed by many entrepreneurship programmes on producing a business plan, despite the fact that business plan development would appear to be a common element in most entrepreneurship programmes (Hills, 1998). It was supported by recent studies indicating that a course consisting only of the production of a business plan may have a negative effect on desirability (Carrier, 2005). In order to perceive whether the current curriculum is compatible or not a rubric analysis was conducted as shown below.

9.3.4.1 Model analysis: Rubric Analysis

The curriculum was analysed through the Rubric Assessment National Standard of Practice for Entrepreneurship Education's (NSPEE)²⁶ to expose the gap between the

²⁶ The National Standards of Practice are intended to provide encouragement and ideas to facilitate entrepreneurship education with the structure to assure a consistent and high-quality result. This assessment rubric allows program developers and deliverers to examine their status in relationship to the National Standards of Practice.

standard of entrepreneurship curriculum and the current entrepreneurship curriculum used in Malaysian polytechnics. See Paragraph 3.6.3 in Chapter 3 and appendix 5. The table below shows the analysis results for the three modules above:

Table 9.4 Current Status of Entrepreneurship Curriculum in Polytechnics

Entrepreneurship curriculum item	Current status(P3117/ P 3130/ R2001)
<p>Comprehensive Curriculum Delivery Provide a curriculum that offers sufficient depth to ensure students exposed to the related field involve multiple methods of delivery.</p>	<p>Entrepreneurship modules in polytechnics were developed in 1980s with some improvement from time to time on request. However, the curriculum still focused on theory and learning in classroom (traditional method). Maybe because the curriculum could not nurture an entrepreneurship attitude among students which encompassed three aspects, awareness, desire and involvement. Therefore, they are less prepared and fearful of involvement in world of entrepreneurship.</p>
<p>Basic Academic Skills Use entrepreneurship as the real-world context to demonstrate the importance of academic skills, including math, science, communications, digital skills, technology, and more.</p>	<p>Current programmes still lack multidisciplinary and flexible attributes. This means that knowledge base for an entrepreneur should be extensive and include various academic components such as communication, ICT skills, etc. In principal, study programmes in polytechnics have a compulsory module under general courses and multiple disciplines. However these modules are not converging with entrepreneurship development.</p>
<p>Economic Concepts Portray, in a realistic way, the relationship between risk and reward in the entrepreneurial process. Provide opportunities to understand basic economic concepts such as savings, interest, supply and demand, and more.</p>	<p>Economic concepts still vague in entrepreneurship curriculum and practical application of economic concept still needs to be improved. Opportunities to practise economic concept need to be added and space provided to overhaul and transform the concept to practical.</p>
<p>Personal Interest and Investment Provide opportunities for students to start and operate enterprises of an appropriate size and scope, in which they are personally invested, and in a manner that is significant to them.</p>	<p>Students are permitted to handle their own business during occasions such as in graduation day.</p>
<p>Risk Management Reinforce the concept that successful entrepreneurs take calculated risks based on sound research and relevant information, including economic analysis.</p>	<p>There were no modules or components to illustrate entrepreneurship risk as traceable and as something that can be handled further. This is only touched on briefly in the business plan preparation.</p>
<p>Business Planning Requires students to develop a comprehensive business plan that addresses financial, marketing, and operational aspects.</p>	<p>All entrepreneurship programmes in polytechnics require students to produce a business plan. However time allocated to focus on it must be added to enable students produce an effective and efficient business plan.</p>
<p>Career Guidance Generate an understanding of the many career fields that offer opportunities for</p>	<p>Current entrepreneurship curriculum is already exposed to various fields of business that can be involved. This includes visits to business premises and invites a guest</p>

entrepreneurial thinking.	speaker from entrepreneur and the ministry, especially MECD.
Ethical Behaviour Emphasise the need to operate enterprises and organisations in a legal, ethical, and socially and environmentally responsible manner.	Current curriculum did not have a special course to explain and inculcate ethical values regarding business. Notwithstanding, 20 % of lecturers had followed an entrepreneurship related course in the past.
Entrepreneurship as an Economic Force Demonstrate the place for entrepreneurship in school to-career transition, community service, and economic development strategies.	Current curriculum places less stress on entrepreneurship as a force or contributor to national economic development. Hence, students do not realise the importance of entrepreneurial field as a career option that is able to spur the economic development of the country.

Source: Authors analysis based on Rubric Analysis from National Standard of Practice for Entrepreneurship Education's and work by Mohd Fauzi Jani *et al.*, 2007.

Table 9.4 above shows the comparison of the standard of rubric assessment National Standard of Practice for Entrepreneurship Education's (NSPEE) and the entrepreneurship curriculum being implemented in polytechnics. In the context of Rubric Assessment, the first step in curriculum development is to select Standards and Performance Indicators which are appropriate for the program and its purpose in relation to the Life-Long Learning Model. Once these have been chosen, specific instructional objectives must be developed. These instructional objectives define the curriculum and set expectations for student success. The instructional objectives establish the framework for developing assessments, incorporating teaching strategies, and selecting appropriate delivery resources (Consortium for Entrepreneurship Education, www.entre-ed.org). Table 9.4 above shows that there are a few gaps between the curriculum standard and the curriculum in polytechnics as summarised below:

Table 9.5 A Summary of Differences between the Gap Analysis Standard and Polytechnics in Practice

Item	Rubric standard	Polytechnic curriculum
Curriculum delivery	Exposed with a multiple field of delivery	Focus on theory and learning in classroom (traditional method)
Academic skills	Use a real work approach	Curriculum is not a multi-disciplinary approach and is static
Economic concept	Focus on a realistic way to understand risk and reward in economic concept	Economic concept still vague and needs to be improved
Personal Interest and Investment	Provide opportunities for students to start a business	<i>*Student are permitted to handle their own business</i>

Risk management	Emphasis on successful entrepreneurs taking calculated risks	no module or component on risk in the curriculum
Business Planning	Requires students to develop a business plan	<i>*All curriculum emphasis on business plan</i>
Career Guidance	Generate understanding of entrepreneurship as a career option	<i>*Expose through activities such as doing business, inviting guest speaker, etc</i>
Ethical Behaviour	Operate business in a legal, ethical, and socially and environmentally responsible manner	No special course to explain and inculcate ethical values
Economic Force	Show the transition process from school to the world of entrepreneurs, community service and economic development strategies	Current curriculum places less stress on entrepreneurship as a force or contributor to national economic development.

Note: *achieved the standard

Table 9.5 above shows the polytechnic curriculum achieves only one third of the standards set out in the Rubric Analysis. There are a few areas that need to be improved in order to produce a comprehensive curriculum in Malaysian polytechnics. The areas that should be emphasised are: Pedagogy or delivery, still focusing on the traditional method; curriculum content is static and not flexible; economic concept is not clearly being taught; Risk taking is not emphasised as one of the important characteristics. It clearly shows that similar issues emerged via this analysis, the pedagogy, management role and the content of the curriculum. This is in line with Gibb (2002: p.238) who stated that there is no absolute agreement among providers as to the basic concept of entrepreneurship to be taught. In addition, there is no clear focus on what should be taught (Garavan and O’Cinneide, 1994).

9.3.4.2 Model Analysis: Process Model

The discussion below focuses on the content that should comprise the entrepreneurship curriculum derived from the Process Model (Hynes, 1996). For purposes of comparison, the table below portrays the content of Hynes (1996), the current curriculum applied in polytechnics (2003) and the latest curriculum developed by Handscombe *et al.*, (2008).

Table 9.6 A Comparison of Curriculum Content

Hynes (1996)	Polytechnic (2003)	Handscombe <i>et al.</i> , (2008)
<ul style="list-style-type: none"> • Definition of entrepreneurship • Entrepreneurship • Innovation • New product development • Idea generation market research • Feasibility of ideas finance • Production • Regulation • People management teamwork • Business • Marketing • Management 	<ul style="list-style-type: none"> • Introduction to entrepreneurship • Entrepreneurial Issues • Inculcating entrepreneurial Culture • Generation of entrepreneurial Idea and opportunities • Basic Management • Basic Marketing • Financial Management • Business Proprietary establishment and Procedures • Business Plan 	<ul style="list-style-type: none"> • Innovation • Strategy and business planning, marketing • Intellectual property • Human resource management (including leadership and teamwork) • Creativity • Finance and communication skills

Firstly, it shows that innovation, new product development, ideas generation are not included in the polytechnic curriculum suggested in the Hynes Model. Secondly, the latest content proposed by Handscombe *et al.*, (2008) is perceived as more practical; this comprises innovation, strategy and business planning, marketing, intellectual property, human resource management (including leadership and teamwork), creativity, finance and communication skills (Handscombe *et al.*, 2008: p.618-619). Based on these analyses polytechnic curricula need to be reviewed to close the gap between polytechnics and the content suggested in the Hynes Model (1996). Moreover, this model is far behind the latest curriculum proposed by Handscombe *et al.*, (2008). This is in line with Matlay's (2006) claim there is an existing disparity in the content and quality of entrepreneurship education programmes on offer, including curricula design, delivery method and forms of assessment

Based on the two model analysis above, this study concluded that current entrepreneurship curriculum in polytechnics is not comprehensive and is too theoretically oriented. Curriculum used is a not multi-disciplinary one that can help students to be creative and innovative in terms of a diverse concept of entrepreneurial activity. Also students have no opportunity to apply their knowledge to the practical field. Accordingly, this condition is not encouraging students to develop their own creativity and innovative thinking. Motivation is a vital part of the entrepreneurship

curriculum and this is not given enough attention in the content. In a broader perspective, the current entrepreneurship curricula in polytechnics are perceived as unable to be a catalyst for national economic development.

According to Charney and Libecap (2000) it is crucial to understand that the outcomes of entrepreneurship education have varied across colleges and universities through different approaches. They added these range from offering single courses in new business development or business plan preparation to integrated curricula that include marketing, finance, competitive analysis, and business plan development. This was supported by Wilson *et al.*, (2004) who stated that in building curricula and developing programmes to encourage and empower future entrepreneurs, we must recognise that "one size does not fit all". Lastly, there is no perfect content, syllabus or programme and knowledge, competencies and attitudes are dependent on the learning needs of students (Schieb, 2004). In conclusion, the above discussion shows that the entrepreneurship curriculum should be given serious attention if it is to be an effective learning process and produce good quality outcomes. The brief of the curriculum content proposed is shown in Table 9.7 below:

Table 9.7 The content of entrepreneurship curriculum in polytechnics

Level 1 (Skill, knowledge and attributes)	Level 2 (Entrepreneurs)
Information Technology	Information Technology
Motivation	Motivation
Creativity	Innovation
Innovation	Marketing
Marketing	Finance
Finance	Economic Concept
Business Plan	Risk Taking
	New Product Development
	Business Plan

Table 9.7 above shows the content of the curriculum that should be included in the entrepreneurship syllabus in Malaysian polytechnics. These emerge from the qualitative interview and focus group respondents which support the model discussed above. The left column shows the topics in Level 1 where all students have to take the

entrepreneurship module as a core module (compulsory). The right column shows the enhancement module which is offered to students who are interested only. This way, it appears that entrepreneurship curriculum is capable of generating students knowledgeable in entrepreneurship and concurrently produces entrepreneurs. This is in line with the national mission to increase the number of entrepreneurs particularly in small to medium enterprises. This is in line with a study by Raduan Che Rose *et al.*, (2006) who found that small and medium enterprises (SMEs) are important to the issues of economic development and unemployment in Malaysia as mentioned in Paragraph 1.2.2.

9.3.5 The Assessment and Evaluation Method

Overall, there are two methods of assessment; firstly the effectiveness of the programme is normally evaluated through its completion. During their final class students need to make comments about the programmes using the sheet provided by the lecturer. However, in the context of the study it refers to classroom assessment. The assessment in Malaysia is still founded on an “exam-oriented” approach. This is widely practiced in the Malaysian education system in primary schools and carried through into higher education including polytechnics. There does not appear to be a standard methodological approach to evaluation, nor is there a common set of evaluation criteria for determining effectiveness (Henry *et al.*, 2003). This traditional assessment inevitably obstructs the intention of students to be creative and innovative in the learning process. This statement might coincide with the views of one university expert (Cexp1:L3) who is mentioned in paragraph 8.4.4, Chapter 8. The qualitative study acknowledges that a majority of the respondents are still interested in continuing this method with a bit of adjustment as stated in a similar paragraph below:

‘I think we should focus on both final examination and continuous assessment. The reason is, if there is no examination students don’t bother with it because they feel that there is nothing to do, they do paperwork, they do an assignment and they wait for the result. At least examinations can be used to measure their understanding of the module, they have to learn and study.’ (Cexp1:L6).

In polytechnics traditional assessment is carried out in two sections; continuous assessment (60 percent) and final examination (40 percent). In continuous assessment

the items were tested by quiz, assignments, preparation of a business plan, presentation etc. The final examination is carried out at the end of the semester to test the cognitive abilities of the students. For instance, the approach of continuous assessment below is useful regarding this matter:

Table 9.8 The Assessment Approach

Assessment	Percent	Total
<hr/>		
Group project		
Project	35	
Presentation	15	50%
<hr/>		
Individual assignment		
Reflective learning	10%	
X 3	20	50%
Company profile		
<hr/>		
Total		100%

Source: Cooper *et al.*, (2004).

Table 9.8 above proposes the practical method of assessment in experiential learning as suggested by Cooper *et al.*, (2004). The group project accounts for 50 percent of the module mark, of which 35 percent is awarded for the project itself and 15 percent for formal presentation. The student also required to complete a number of individual assignments, which contribute the remaining 50 percent of the overall mark. It is interesting to note that this approach is not the examination basis; it is a practical approach to the entrepreneurship module.

During this study, the researcher found that one of the restrictions of the examination approach was this did not encourage students to be creative and innovative in thinking. The only purpose of taking the module is to pass the examination as mentioned in the interview with the students. Another issue raised by this statement is that the current examination system prevents the student being creative and innovative in learning and thinking. This argument is supported by Haris (1997) who found that Malaysian education is content and examination centred. He added that the highly standardised examination system moulds the pedagogy of the classroom. Accordingly, this system

focuses strongly on the cognitive, rather than the affective domain. The students might score A in the examination because they memorise the content, in fact they are not imbued with entrepreneurial competencies.

The discussion above shows that the effectiveness of entrepreneurship curriculum in Malaysian polytechnics is not only determined by the objective, content and examination of this module. The study identified a few issues related to the effectiveness of the entrepreneurship curriculum such as:

9.3.6 Entrepreneurship as a Course or Programme

This study found that a majority (80 percent) of respondents from polytechnics including directors and heads of departments disagree with offering entrepreneurship as a programme. Some of the reasons given are lack of lecturers, job prospects of the students, and the doubts of parents and Public Service Departments regarding to the future carrier of the students. However 20 percent agree it should be offered as a programme due to it being a worldwide taught programme rather than a module in higher learning institutions. Secondly, it needs a shift of paradigm amongst the Malaysian people regarding this issue: the attitudes to depend on the government (employment) should be changed to a job creator (self-employed) as suggested in the study. See Paragraph 8.2.6 in Chapter 8.

9.3.7 A Semester Selection

This study found that 75 percent of respondents agreed that entrepreneurship should be offered in the early stages, even in the first semester. They thought that the student's knowledge was still fresh and that students were more motivated to venture into business. In contrast, 25 percent of respondents prefer to be offered entrepreneurship in the final semester. Both of the views have their arguments. Students need to develop their skills and talent at the earlier stage, for instance by informal activity and programmes in polytechnics. In addition, in the final semester students are busy with the most important core subjects on which they need to concentrate. The second opinion is the students are still in fresh in knowledge and interested in business ventures when the module is offered in the final semester. The detailed findings is shown in Paragraph

8.5.2 in Chapter 8. In this situation, entrepreneurship might be offered at an early stage rather than during the final semester in polytechnics.

9.3.8 Summary

Overall, there are a number of variables regarding curricula that need to be considered in developing an entrepreneurship module as discussed above. With reference to the research question above it could be concluded that the current entrepreneurship curriculum in polytechnics is perceived as not highly effective due to only one module (P3117) playing an important role. The other modules (P3130 and R2001) need to be improved. Instead of the module being only for commerce students it should be offered to all polytechnic students as a compulsory module.

Research Question 3

9.4 Entrepreneurship and Pedagogical Issues

9.4.1 Introduction

The preceding paragraphs discussed and suggested a new entrepreneurship curriculum for the polytechnic. In inculcating the entrepreneurial spirit for education, enterprises require several innovations in the content, mode of teaching, assessment method towards more practical and exposure to real work life. Indeed, educators are challenged with designing effective learning opportunities for entrepreneurship students (Solomon, 2007). These issues were analysed based on the research question “*How can entrepreneurship be taught effectively in Malaysian polytechnics?*”

9.4.2 Model Analysis: Rubric Analysis

Hytti & O’Gorman (2004) and Galloway & Brown (2002) identified 2 key success factors that enable the entrepreneurial educational programme to be more successfully implemented. Firstly the objectives of the programme – it must be clear and achievable. Secondly the education or programme delivery methods – it must be effective. The objective, as well as the delivery methods to be implemented, should be developed based on in-depth research of the existing situation, i.e. Gap analysis – to determine the differences between the norms (most ideal) and actual performance. In this study, Rubric analysis is applied to examine in detail whether teaching methods of entrepreneurship implemented in polytechnics reach this standard or otherwise. The table below shows the comparison between the standard concept of delivery method and the delivery methods practiced in polytechnics:

Table 9.9 The Delivery Method

Concept	Evidence of Delivery	Summary of Delivery Method Used in polytechnic
Facilitating and coaching	Lecturer(s) did not manage student learning in ways that allowed individual students to focus on their needs and to advance their knowledge base and build the competence needed for their individual success. Individual did not plan and provide evidence of individual student planning	Instructor-centred learning environment Content of programme is determined by instructors-does not focus on the need of individual students Does not help with building the competency needed for student success
Experiential	Instructor(s) did not provide experiential	Theoretical and content-oriented

learning	learning experience that would allow students to learn through the their own personalised learning plan and to demonstrate gained competence through their individual performance	learning style
Problem-based learning	Instructor(s) did not organise student learning activities for students to look for alternative options and work their way through simple and complex problems in order to seek solutions to market/work place problems	Theoretical and content-oriented learning style UMK is the best sample and the only institution to apply this method under SIEP programme
Students as leaders	Instructor(s) organise their programmes so that students may direct themselves through enquiry based learning activities. Planning, creating and operating businesses are encouraged as an essential learning strategy	The method has been used slowly by instructor(s)
People in the community	Community volunteers were not fully utilised in a variety of ways to guide, advice and inform students	Several successful entrepreneurs have been appointed as speakers and lecturers to give motivation and guidelines.
Variety of methods	Method to equip students for the entrepreneurial challenges ahead did not focus on higher level learning strategies and were not challenging enough	Method used to equip students for the entrepreneurial challenges ahead did not focus on higher level learning strategies and were not challenging enough
Lifelong learning model for entrepreneurship education	No assessment was made to determine the level of competence possessed Programme strategies are levelled at the appropriate stage of the life-long learning model, depending on the needs of students	No assessment was made to determine the level of competence possessed There is no strategy levelled for polytechnic students

Source: Author's Own Analysis, Adapted and Assimilated from Norasmah Othman *et al.*, (2008) pp.126-128

Table 9.9 above shows the entrepreneurship teaching method in polytechnics is still not achieving the standard set by this model. Based on the rubric analysis indicator above, it appears that the teaching method in polytechnics needs to be diagnosed and a new approach to learning should be proposed. For instance, polytechnics still used the lecturer-based method instead of student-centred learning that is widely used in entrepreneurship education.

9.4.3 The Teaching Method: A Suggestion

Regarding the matter above, the qualitative study found that “lecturer-centred” methods were extensively used in polytechnics. This method focussed on the theoretical and content aspects. It was less focussed on involving entrepreneurs in participation and also less likely to apply diverse delivery methods. In other words, the way the lecturers

imparted knowledge through a traditional lecture approach was found to be ineffective for polytechnic students.

The assertion above is proven by the researcher's observation in MAS, it reveals that teaching methods in this module are entirely based on the traditional approach, using a didactic or "chalk-and-talk" method, and no teaching aids are used in the pedagogy (see Paragraph 8.7.1). Ultimately, it contributes to the ineffectiveness of the pedagogy and the module respectively. This is in line with Davies and Gibb (1991) who criticise the adoption of traditional methods that focus on theory as this didactic approach is "inappropriate" for teaching entrepreneurship. In addition, traditional pedagogy is frequently in contrast to the needs of entrepreneurial education (Honig, 2004). This concern is acknowledged by the lecturers and top management in the polytechnics in the interview and focus group discussion. In general, to be effective a teaching method should be based on two propositions: "student-centred learning"; and "practical approach". Hence, the more appropriate method suggested below:

9.4.3.1 Student-Centred vs. Lecturer-Centred Learning

Overall, problem based learning (PBL), experiential learning or learning by doing are focuses on students rather than lecturers. These approaches oppose the "chalk-and-talk" method that are usually used in traditional methods of teaching entrepreneurship. Student-centred learning implies that students are stimulated to set their own goals, formulate their own targets, collect their own luggage and select their personal mode of transport (or build their own) for their journey towards innovative entrepreneurship (Harkema and Schout, 2008). Secondly, the PBL method might be implemented in the polytechnic, however, the lecturer does not realise it. The approach might be effective if it is properly designed, for instance based on student courses in polytechnic, student level of study, semester, etc. Refer to PBL in Paragraph 3.5.2.2 for a detailed explanation.

9.4.3.2 Practical vs. Theoretical Approach

A second strand regarding this issue refers to experiential learning, external lecturer or guest speaker invited to the campus to deliver a lecture, exploratory techniques and learning outside the classroom. Firstly, it uses a combination of theoretical and practical approaches in business schools, by the analysis of entrepreneurial problems and solutions grounded within “realistic” case and field studies (Peterman and Kennedy, 2003; Timmons, 2003). The approach focuses on the hands-on or practical activities that involve students doing the activities and having their own experiences – they “see, touch and feel” as stated by Cooper *et al.*, (2004). Similar results are found in this study as depicted in Paragraph 8.7.2.1. Secondly, a study found that 80 percent of respondents in the interviews agree and suggest that entrepreneurship should be taught using practical methods rather than being lecture-based. This finding is supported by Musa (2009) who argued that effective learning can take place outside the classroom, and many a learned and educated man never saw the inside of a classroom.

The propositions above offer ways of improving the effectiveness of teaching. Some ways are suggested by the respondents in the study. Respondents suggest problem-based learning (PBL), experiential learning or learning by doing, external lecturer, exploratory technique, outside the classroom technique and consulting based learning. However, not every one of these methods is highlighted in this discussion because it has already been examined in the preceding chapter. The remainder are discussed below:

9.4.3.3 Problem Based learning (PBL)

The finding above mentioned PBL was implemented at Universiti Malaysia Kelantan (UMK); students have to apply the technique to solve a problem given by the lecturer. Interestingly, the study also found that PBL is already practised in polytechnics as discussed in Paragraph 8.7.2.2, but lecturers are not conscious of that. Accordingly, PBL should be refreshed and polished by providing additional courses or training to polytechnic lecturers. As discussed in Paragraph 3.5.2.2, PBL might be implemented based on the model suggestion by Siok San Tan and Frank Ng (2006) as follows:

- Curriculum: Divided into 12 problems (12 weeks) and emphasises the application of the knowledge

- Assessment: There are no exams which require the regurgitation of facts. Students are assessed and graded based on their critical thinking demonstrated in the proposed solutions to problems
- Classroom: The class size was relatively small and the world outside the classroom is the best teacher in entrepreneurship
- Students: Students work in small teams, with peer discussion to solve a particular problem and are expected to exercise their creativity and think “out of the box” when solving problems

Accordingly, this model is proposed to CDED and training division for future curriculum development and staff training respectively.

9.4.3.4 Lecturer or Guest Speaker

Role models have been recognised in general as an important source of ‘vicarious learning’ (Bandura, 1986). The study reported that most of the polytechnics expose students to this method. Based on the interviews and focus group, the lecturers admitted that this approach is one of the effective ways in delivering the entrepreneurial knowledge. In the polytechnic the guest speaker is usually invited on graduation day, when they also become the “special guest” for the ceremony. “As keynote speaker they will contribute in sharing their ideas and experience as successful entrepreneurs” (Mgt1:P6). The speaker is also involved in the activity during the entrepreneurial weeks in the institutions. However, the programme is a “*one-off* programme” since there is no “follow-up” action to support this activity or programme.

9.4.3.5 The Exploratory Technique

This technique was emphasised in the findings (Paragraph 8.7.2.4). Two of the contents experts from UKM and UMK believe that this is one of the effective methods to train students in entrepreneurship. UMK was a good example in the implementation of the approach through the “Student in Enterprise Programme (SIEP)”. This is in line with Hynes (1996) who stated that discovery methods encourage learning through discovery and experiential learning. This involves learning by doing, by involving students in problem solving in real-world situations including the solution and action component.

Polytechnics should embark on this method, for example by inculcating this method during industrial training which is compulsory for every student in a polytechnic. The method of implementation is subject to the readiness of polytechnics themselves to change their current method of pedagogy.

9.4.3.6 Learning Outside the Classroom

The study proved that 60 percent of the interview respondents agreed that entrepreneurship should be taught in “real-life situations”. In preparing their teaching plan, as facilitator, the lecturer should allocate the activities such as a visit to an industry or business centre in order to create awareness amongst the students. Instead of that, activity such as selling on graduation day is useful as a practical basis for students to review their entrepreneurial knowledge, skills and attributes. This is in line with the study with the managers by Henry *et al.*, (2005). Their study found that in order to be effective in entrepreneurial development programmes, learning must be based on real work situations so that managers can better implement what they have been taught.

Generally, a method as discussed above shows the relationship between students and lecturers in which students are more active in learning the process compared to the lecturers. It might be concluded that respondents agree student-centred learning is more “ideal” rather than a lecturer-centred approach which is usually practised in the traditional methods previously mentioned. The role of the lecturer should be changed from the “chalk-and-talk” method to facilitator in the new learning approach. These indirectly require trained lecturers who are expert in the new methods as aforementioned. They also need to be imbued with entrepreneurial tendencies such as creative thinking, innovative in teaching, capable of making a decision, etc. Accordingly, the lecturers in polytechnics should be developed in these areas through relevant training courses.

9.4.3.7 Triangulation of Teaching Methods

The method might also be a combination of traditional and non-traditional teaching in order to encourage students to learn entrepreneurship. This combination of teaching and

learning techniques provide a rich and varied experience for students (Cooper *et al.*, 2004).

Table 9.10 Timing and phasing of venture management programme activities

Activity	Week of the semester											
	1	2	3	4	5	6	7	8	9	10	11	12
Project identification (Module)	x											
Staff meet the entrepreneur	x											
Pedagogy												
Classes - PBL	x	x	x	x								
Lecturer or guest speaker					x							
Learning outside the classroom						x						
The exploratory technique							x	x				
With entrepreneur in company									x	x		
Tutorial meeting											x	
Assessment												
Learning summary due (individual)					x		x					x
Company profile due (individual)							x					
Group presentation (group)												x
Management report due (group)												x
Lecturer s training	x											

Adapted from Cooper *et al.*, 2004

Table 9.10 above summarises the example of a polytechnic lecturer semester teaching plan based on findings as discussed above. This might be used as a guideline in generating an effective entrepreneurship pedagogy in Malaysian polytechnics, especially at the beginning of the semester.

9.4.4 Trainers and Training Providers

As mentioned above, entrepreneurship training is not a priority in the programme compared to other subject matter due to it not being a compulsory module. This module is also claimed to be a straightforward module, easy to deliver and anybody can teach the module. However, the quantitative part shows that polytechnic lecturers score as *less* and *occasionally* enterprising, but their score is higher than the score for students: mean (30.42) in the GETv2 Test (see paragraph 7.9.3).

A similar result is shown in the qualitative study. These findings reveal that the pedagogical methods used to teach entrepreneurship in Malaysian polytechnics are ineffective. They also reveal that polytechnics have an inadequate number of lecturers

to teach entrepreneurship; only a few lecturers have experience in teaching entrepreneurship and the majority need an entrepreneurship course. The interviews also found only 20 percent of lecturers had taken a course in entrepreneurship; the remaining lecturers request the same courses. These results are consistent with the findings of Gibb (2002), Charney and Libecap (2003), Ramayah and Harun (2005) and Souitaris *et al.*, (2007). The authors are in agreement on the importance of attending entrepreneurial courses or training in relation to the promotion of entrepreneurship; in turn this will increase levels of inclination towards entrepreneurship.

Focus groups with polytechnic lecturers found that 90 percent of them need training to be competent in teaching entrepreneurship. They added that the lecturers should be exposed to the course to enhance their skills, ability and knowledge. The study also found that only 10 percent of the lecturers in focus groups acknowledged that they have previously attended a course regarding entrepreneurship. Furthermore, PUO lecturers discuss internship²⁷ or apprenticeship programmes; the place and budget is limited compared to proportion of the lecturers even when they are allocated seven days training per year. Polytechnic Directors were asked to validate this issue and admitted there is a limited budget to provide training for all of the lecturers. In response to this issue the Policy Planning Director acknowledge that it is affordable to train only 6 percent of the lecturers under the scheme each year. His idea shared as below:

'I believe that our lecturers can still enhance their knowledge and skills by attaching themselves to the relevant industries, and to successful entrepreneurs. At the moment not many of the lecturers are given the opportunity or have time to do that because we are limited to about 50 places per year. Giving a bigger proportion of our staff the opportunity to pursue the attachment for 3 months will help them to understand better and hopefully they can teach our students to appreciate entrepreneurship from their exposure' (Mgt1:P4).

Regarding this matter, a curriculum officer reveals the function of CDED is to provide the “orientation course” for new or revised curricula. This is in line with the objective of CDED which is “to execute orientation programmes for the usage of new and reviewed curricula” (CDED, <http://www.bppk.gov.my/bppklms/>). The other courses such as advanced courses are handled by the respective division: Training and Career Development Division. However, based on the observation, the researcher found that

²⁷ Internships or apprenticeship programs engage students in service activities primarily for the purpose of providing students with hands-on experiences that enhance their learning or understanding of issues relevant to a particular area of study. Furco.A (1996) from http://kea.uovs.ac.za/faculties/documents/14/Service-Learning_Resources/Articles/-Furco_1996_A_Balanced_Approach.pdf

there are no special courses relating to this module being conducted by any division in the year 2008 (<http://www.jppkk.gov.my>). In order to tackle this issue polytechnic lecturers should be trained to enhance their skills, knowledge and attributes of entrepreneurship.

9.4.5 Summary

The discussion above concludes that effectiveness of the entrepreneurial pedagogy is of paramount importance and should be developed in the polytechnic system. Indeed, the method of teaching should be based on students rather than the lecturer. Secondly, as mentioned by Rasmussen and Sorheim (2006) this study indicates that action-based entrepreneurship education can be accomplished in many different ways depending on the operation. The polytechnic should exploit the method above according to the capability of the institutions such as the ability of the lecturer, especially in utilising non-traditional methods. The study also reveals that students prefer learning entrepreneurship through practical approaches rather than through theoretical ones. Proposed teaching methods emerged from the study such as experiential-learning, problem-based learning, etc. Other factors involved, such as the ration between lecturers and students, number of students in the classroom, the training of trainers and attracting guest speakers also became main factors concerning the effectiveness of the study.

With reference to the research question above, it is noted that there are a number of methods by which entrepreneurship education can be taught effectively in Malaysian polytechnics. This finding confirmed that polytechnic lecturers are not imbued with entrepreneurial tendencies. In this regard it is in line with (Smilor, 1997: p.344) who mentions that “Effective entrepreneurs are exceptional learners. They learn from everything. They learn from customers, suppliers, and especially competitors. They learn from employees and associates. They learn from other entrepreneurs. They learn from experience. They learn by doing. They learn from what works and, more importantly, from what doesn’t work”.

9.5 Government Policy and Administration

9.5.1 Introduction

In Malaysia, commitment and support is perceived through national policies such as: the New Economic Policy, National Development Policy, Ninth Malaysian Plan, BCIC, *etc.* In Britain the commitment of government to ‘foster a new entrepreneurial spirit’ is stated as below (Scourfield, 2007).

“In Government, in business, in our universities and throughout society we must do much more to foster a new entrepreneurial spirit: equipping ourselves for the long-term, prepared to seize opportunities, committed to constant innovation and improved performance.”²⁸

In this study government policy refers to the agencies involved in developing entrepreneurship education such as MoHE, DPCCE, INSKEN, HEI’s and polytechnics. It also involves the administrators in the institutions who are responsible for the success of the policy implemented. In addition, they are also considered as stakeholders in this study. This section covers the research question of “*How does government policy and administration influence student tendencies towards entrepreneurship?*”

9.5.2 Government Policy and Entrepreneurship Education

According to the Global Entrepreneurship Monitor report (GEM, 2000), the general attitude of the public toward entrepreneurship, their understanding and support, is important in society and becomes a key social and cultural norm. The study in polytechnics, MoHE inevitably coincides with the government policy regarding entrepreneurship. For instance, the Ninth Malaysia Plan (Malaysia, 2006) emphasises the development of human capital through quality education and training to ensure a supply of highly knowledgeable and globally competitive individuals (Malaysia, 2006). This statement becomes the authoritative line in education departments and is used to

²⁸ Tony Blair in *Foreword to Our Competitive Future: Building the Knowledge Driven Economy* (Department of Trade and Industry, 1998)

interpret and implement this concept in the respective organisations. In order to eradicate the problem of unemployment in the country (this has become a major agenda in Malaysia) DPCCE launched a programme known as “finishing school” as mentioned by the Deputy Director General (DDG) in the interview. The aim of the programme is to assist graduates with entrepreneurial skills and knowledge and lastly for them to enjoy being entrepreneurs. This is virtually in line with the government’s intention through cooperation between MoHE and MECD. Additionally, the desire is to consolidate and increase the effectiveness of cooperative relationships in entrepreneurial development and cooperation among staff and students in Higher Learning Institutions (Bitara, Bil. 3/2008). Indirectly, this forms the objective of the Ninth Malaysian plan: to develop a special entrepreneurship training programme for unemployed graduates (Malaysia, 2006).

9.5.2.1 Financial support

Finding 8.9.5 mentioned that 80 percent of commerce department heads were disappointed that no budget was allocated for conducting entrepreneurship activity and programmes in polytechnics. In addition, three quarters (75 percent) of lecturers in focus group discussions suggested a special budget should be allocated for entrepreneurship activity and programmes. Accordingly, a special unit should be established to manage entrepreneurship activity and programmes, including financial issues. The issues of finance are perceived as important, particularly in long-term programmes. The entrepreneurship incubators, study visits, and doing business on the campus definitely involve a capital outlay to implement the activities and programmes. This should become an important agenda item, particularly in the allocation of the yearly budget application to the ministry. Instead of allocation by the public sector, funds also might be raised through private agencies. In this matter, cooperation with these agencies needs to be explored at first. Then, a tracking activity should be followed up in order to strengthen the relationship and networking within the agencies. For instance, the cooperation between PSA and ANGKASA failed due to financial problem as mentioned in Paragraph 8.2.3 in Chapter 8.

9.5.2.2 Lifelong Learning

Entrepreneurship is an important objective of lifelong learning (Onstenk, 2003). Recently, the Malaysian government introduced lifelong learning into the polytechnic education system. This concept is in line with the DPCCE Director General's instinct in which the aim of entrepreneurship is not only to produce a new venture or business person but also to ensure that students are embedded with entrepreneurial skills, knowledge and attributes. They should be creative and innovative upon graduation. This finding is also tailored to the Ninth Malaysia Plan Policy. The implementation of lifelong learning programmes will be accelerated to enable all segments of society to continuously learn and acquire knowledge and skills. Accordingly, lifelong learning infrastructures such as community colleges will be expanded and upgraded in the DPCCE (Malaysia, 2006). The role of the polytechnic is providing the learning infrastructure for this programme. Embedded with the situation above the researcher believes that the coordination between entrepreneurship and lifelong learning is an important agenda, at least as one of the mechanisms with which to accelerate more entrepreneurs in the country. In addition, entrepreneurship is an option for low achievers at school, and groups can be motivating (Onstenk, 2003: p.87).

9.5.2.3 Coordination and Collaboration/Networking

In general the study found that all polytechnics conduct their activity and programmes themselves and do not cooperate with other polytechnics. Due to the fact that polytechnics are centralised institutions, this issue triggers the need for an entrepreneurship unit to coordinate and manage the activities and programmes.

There are two types of cooperation and whether short term or otherwise is dependent on the objectives of the programmes. For example, government-to-government (G-to-G) cooperation which involves more than two ministries or departments is normally executed as a long running project. However, internal cooperation such as between polytechnics or with entrepreneurs is normally conducted over a short term period. This would be very important not only to get first hand information from the entrepreneur, but also to introduce the prospective entrepreneur into the local business circle (Gibb, 1988). For instance as mentioned in 9.2.5 the cooperation between government and private sector has proven successful under the 'Tunas Mekar' programmes.

During the data collection, UKM was far ahead with its involvement in international collaboration regarding entrepreneurship. See Paragraph 8.2.3. Recently, Shah Alam Polytechnic (PSA) made history by signing an agreement with Senzhen polytechnic, China. In the first International X-Change, PSA students will be attached to the Industrial Centre in Shenzhen Polytechnic as well as enterprises during their stint in Shenzhen (Bitara 2, 2008). Elsewhere, the students found that cooperation with industry is difficult especially for industrial attachments (PUO:FG:L9). This is in line with McKeown *et al.*, (2006) who found difficulties in the cooperation with the industry especially in the technology transfer programmes.

9.5.3 Summary

Most of the activity under the government institution is strongly dependent on policy that is driven by the government. The polytechnic as a dependent agency will rely on policy and direction from the government compared to the university with autonomous power. In other words, the more power released by the government to each institution, the more freely decisions could be made by the institution. The above examples illustrate how government policy and administration influences polytechnic activities and the concurrent effect this has on the entrepreneurship tendencies of students.

Research Question 5

9.6 Culture and Entrepreneurship Education

9.6.1 Introduction

The issue of culture was discussed in Chapter 6 regarding the Malaysian context and entrepreneurial demography respectively. It involves beliefs and norms, gender, family background, ethnicity, race and religion. Ethnic group refers to cultural background, nationality, traditions, religion, language, geographic territory, and experiences shared by an individual and other people who have a common ancestral origin (Feldman, 2001; Shiraev & Levy, 2001). The discussion also will incorporate the Hofstede Model (1991) as discussed detailed in Chapter 2. Power distance, individualism, masculine, uncertainty avoidance, and Confucian dynamism were found significant to this study. The input gathered from the field work is hoped to answer the research question “*How the cultural values moderate the tendencies of students towards entrepreneurship.*”

9.6.2 Entrepreneurship, the Attitudes and Values

There is a general agreement that attitudes towards the entrepreneur, entrepreneurial activity, and its social function are determinant factors for university students to decide on an entrepreneurial career (Veciana *et al.*, 2005). Values refer to the core of an individual’s personality and cognitive systems and as such they determine attitudes, expectations and behaviours (Rockeach, 1973). Personal values involve self-awareness and they consciously influence choice and behaviour; hence an individual who values entrepreneurial characteristics will be deliberately influenced in his or her intention to become an entrepreneur (Chong Siong Choy *et al.*, 2005). The discussion below will analyse this aspect.

9.6.2.1 The Paradigm Shift vs. Status Quo

‘So entrepreneurship to me at a university level is more about thinking. Thinking and personality, that is for people who don’t know, if they have a thinking personality, you don’t have a problem, once you graduate then want to be an engineer. Yes, fine, they work for 3 or 4 years, then become entrepreneurs’. (Cexp2: L5)

Firstly, the above statement implies that entrepreneurship in tertiary education is more focussed on entrepreneurial attributes than on business start ups. The interviews with students show that they are not interested in becoming entrepreneurs, especially Malay students. One of the major obstacles to developing an entrepreneurial society among the Bumiputera is the need to change preferences. Currently they prefer to work for others rather than start their own businesses. Malaysian history shows that ethnic population has been inculcated (since the colonisation era) with the culture of becoming an employee especially in the public sector (Dana, 2001; Shukor Omar, 2003). It is difficult to bring an entrepreneurship culture into this society (Sweeney, 1997). This is rooted in the “ethnic division of labour” that was created in colonial times and has remained quite evident in 1970; nevertheless, the ability of Bumiputera to survive and sometimes thrive in more openly competitive situations is clearly increasing (Snodgrass, 2004). In order to be successful, polytechnic graduates need to shift their attitudes to eventually becoming employers.

9.6.2.2 The Entrepreneurial Person vs. Entrepreneurial Knowledge

The study found that all students should be incorporated with entrepreneurial skills and attributes. A broad definition of entrepreneurship would state that it is achieved through skills, attributes and knowledge. The arguments below illustrate the opinion of top management in DPCCE. His statement was supported by another respondent in the similar department, their shared experience is denoted below:

“The objective of entrepreneurship is not only to start off a business, but more towards an education in soft skills like creativity, leadership, innovation and other entrepreneurial characteristics. I think that should be sufficient for the time being.” (Mgt1:P1)

‘We don’t want everyone to be entrepreneurs actually’ our main aim is to give entrepreneurial knowledge, that thinking is more important. So in our teaching and learning we should give that thinking, the thinking of business, is not “you are a businessman”. Even though you are not a businessman gaining profits. So our advice should be to provide knowledge of business at all levels. I remember right from our school days we have been given the knowledge. That we should do. You can apply the knowledge whenever it is needed. We are not aiming for them to become businessmen, but if they want to embark on that venture then they have the knowledge. That is also the aspiration of our ministry’ (Mgt1:P2).

Both arguments above indeed determine the pattern of entrepreneurship education in the Malaysian polytechnic. The reason is both of them are administrators in the institution under study. Their opinion and decision unavoidably influence entrepreneurship education in the polytechnics, whereas the final decision is from them. This is in line with Hofstede (1991) who found that most Asian countries, including Malaysia, are high power distance values (Hofstede and Hofstede, 2005). In the workplace, it means superior and subordinates are existentially unequal; the hierarchical system is based on this existential inequality. Organisations centralise power as much as possible in a few hands. Subordinates expect to be told what to do (p.55).

9.6.2.3 The Entrepreneurial Person vs. Business Person

The student mindset should be changed with more openness towards understanding the concept of entrepreneurship rather than business approaches. This idea was expressed by the experts denoted below:

'It is to make people aware there is a big different between entrepreneurship education and business education, there is a big obstacle everywhere you go people think they are same thing' (Cexp1:L1).

'Not all business persons turn into entrepreneurs. Sometimes when we mention entrepreneur, people are often misled as to the definition of entrepreneur, i.e. not necessarily a business person. Entrepreneur is everything, as long as it is worked out from the bottom to the top, in any field' (Mgt2:P2).

The statements above show that the objective of entrepreneurship education is not to create all students as businessmen. However, it is anticipated that students will be inculcated with entrepreneurial characteristics ~ this refers to effective leadership, creative thinking, the ability to make firm decisions, being proactive and self-confidence. Entrepreneurship is often seen as a way of life (Gibb, 1998). These are skills that apply across disciplines such as doctors, lawyers, farmers and so on. This is in line with the university expert who shared her ideas:

'....., once you graduate then want to be an engineer yes fine they work for 3 or 4 years. But they will always be observant, scanning for opportunities, not people who are bad but they try to scan the opportunities out there to see what they can do.' (Cexp1:L2)

Based on the discussion above, it might be concluded that a fresh graduate should be exposed to gain a real working experience from the field before embarking as an entrepreneur immediately. Hence, the role of educationalist is to nurture the students with entrepreneurial skills, knowledge and attributes. Their knowledge and experience gained becomes an asset in new ventures.

9.6.2.4 Creative and Innovative vs. Traditional Thinking

As discussed in 6.5 above, the examination system in polytechnics was identified as one of the causes ‘why’ the students are not creative and innovative in thinking. However, the nature of entrepreneurs shows that the module needs students to be creative and innovative in thinking. Creative tendency is one of the pillars of entrepreneurial study. In other words, the emphasis of the study has been on developing critical or vertical thinking. This is a function of the left-brain – it is objective, analytical and logical and results in one or, at most, only a few answers. In contrast, creative thinking is lateral, imaginative and emotional resulting, through association, in more than one solution (de Bono, 1970).

It appears that “thinking” becomes a major issue in the study. Some theory related to this issue is the right brain-left brain theory by Roger W. Sperry; Convergent thinking vs. divergent thinking by Joy Paul Guilford, Lateral thinking by Edward de Bono and so on. Most of the entrepreneurship researchers favour left-brain or right brain terms. For instance as cited from Kirby (2004) preliminary research by Nieuwenhuizen and Groenwald (2004) on the brain preference profiles of entrepreneurs appears to confirm right brain thinking preferences of successful entrepreneurs, which may well explain why so many are known not to have succeeded in the formal education system or are dyslexic (Kirby, 2002). Moreover, it involves students in problem solving in real world situations, possibly in teams which to develop both intuitive and rational thinking, to recognise the multi-faceted nature of problems and solutions and to encourage communication and co-operation (Kirby, 2004). The right brain also encourages students to solve a problem in various methods and approaches such as financial problems, for example (see Paragraph 8.2.4.1).

9.6.2.5 Future Career Development

One of the common issues in entrepreneurship education is people thinking about the future career of the students besides doing business upon graduation in entrepreneurship. This issue is mentioned by Mgt2: P2:

“Their parents are of the opinion that so long as their children hold a job and are getting a salary that is sufficient. But in the long run, they can’t do better than what they are doing now.”

In relation to this statement, the majority of parents’ perception is that graduates should hold a post in line with their qualifications. For instance, engineering students should be engineers and not be self-employed or business persons. This issue was discussed in the interview with the content expert as shown below:

‘I believe we can start right after they graduate, but you must change the stigma that all graduates need to reach a certain standard that is relevant to their status as university graduates. Forget about it. If you learn engineering, don’t be ashamed to catch fish, sell ‘budu’, or be a rubbish contractor. Put the degree aside. If you have 10, do business that is worth 10 ringgit, if it’s 100, do business that is worth 100 ringgit. Do business on a par with what you have. Those who do business in the night market, getting rich without paying any tax at all. A silent millionaire is very rich. Our mistake is to look at what they sell not the profit that they earn’ (Cexp1: L5).

This issue is related to why entrepreneurship cannot be introduced as a course in polytechnics as mentioned by the DPCCE Director General, which parents and the Public Service Department feel doubt on the job prospects of entrepreneurship graduates. This is in line with the Hofstede study which found that Malaysians score in the medium at 36 in Avoidance of Uncertainty (UAI). It means that the society members of a culture feel threatened by ambiguous or unknown situations regarding this issue (Hofstede and Hostede, 2005: p.167).

In conclusion, firstly the attitude towards entrepreneurship has to be changed. Instead of developing entrepreneurial attributes and creating awareness amongst students, the thinking must also focus on entrepreneurship as a career option. Subsequently, the economics might change in parallel with solving the unemployment problem in the country. This is in line with the rationale of the research conducted as mentioned in Chapter 1 Paragraph 1.2.2 in which entrepreneurs contribute to industrialisation as well

as to economic growth; they improve living standards and their tax revenues contribute to the treasury of a nation (Dana, 2001)

9.6.3 Entrepreneurship and Gender Issues

The study reveals 80 percent of the respondents have a similar opinion regarding this issue. Both genders, male and female, play an important role in entrepreneurship. One issue in Malaysian Higher Education Institutions is the enrolment of female students. The number of female students is almost double the number of male students in higher education institutions. For example in 2006 there were 68 percent female students and 38 percent male students in Malaysian Institution of Higher Learning (MoHE, 2007: p.2-23). This inevitably has an impact on the overall picture of the study. This is exemplified by a comment from one of the experts:

“I think gender is ceasing to have an influence on the tendency towards becoming entrepreneurs. As for the graduates, the number of female graduates in local universities has increased tremendously as in the case of UUM where the numbers are 25 percent male versus 75 percent female.” (Cexp1:L4)

However, the remaining 20 percent believe that there is a slight difference in gender. The quantitative part of the study has confirmed that (61.4 percent) of female polytechnic students and (55.4 percent) of male polytechnics students belong to the *less* and *occasionally* categories of enterprising criteria. See Table 7.9. It also recorded a slight difference between male and female students in *occasionally* score at 44.1 percent and 38.6 percent respectively. Male students had higher enterprise scores with a slight difference of (0.5 percent). This finding is in line with a previous study which although females are very interested in starting a business, they are significantly less likely than males (62 percent vs. 72 percent) to want to start a business of their own business (Kourilsky and Walstad, 1998; Minnitti, Arenius, & Langowitz, 2005; Reynolds *et al.*, 2002).

Many factors undoubtedly contribute to the disparity between men and women in entrepreneurial career interests and behaviours. One factor in particular, entrepreneurial self-efficacy, or the self-confidence that one has the necessary skills to succeed in creating a business, has been demonstrated to play a key role in determining the level of interest in pursuing an entrepreneurial career (Wilson *et al.*, 2007). In Malaysia, their

economic motives are not as strong as the other counterparts because their family is less dependent on income from their business (Salleh and Mohd Osman, 2007) and women have to balance between family and work (p.33). In addition, it permeates the Hofstede (1991) study. It shows that Malaysia is the masculine country with the score of 50. One masculine general norm is that men are more assertive, ambitious and tough and women are supposed to be tender and take care of relationships (Hofstede and Hofstede, 2005: p.132).

However, this finding is contrasted by the qualitative study results as these state that there is no difference in gender in entrepreneurial tendency. This is the view shared by the expert from a university:

'I don't think gender plays a role here. Malaysia has always been non-gender biased when it comes to entrepreneurship, we are open about this. Even though there are not yet as many women entrepreneurs as men, but whether gender is involved or not this is not to do with gender, it's just the responsibilities that women have and many other reasons' (Cexp1: L2).

This assertion is in line with a previous study in a Malaysian polytechnic by Baharu Kemat (1994). In the study, he found that a female student from the village, and peasant family, shows high attitudes of enterprise. In addition, it is generally known that Kelantan's woman already operate in a culture where females in entrepreneurship are much more prevalent and where most of them are involved in small businesses of some kind. They are normally involved in groceries shops, boutiques, and food and fruit businesses. In addition, many early studies were undertaken in Kelantan and Terengganu where women in business activities are more visible (Salleh and Mohd Osman, 2007). In addition Amran Daud (2004) found that interest factor, changing a family's fate, profit and self-satisfaction serve as a motivator for these woman to get involved in business.

Essentially, the participation of Malaysian women in entrepreneurial activities was originally encouraged as a means to supplement the family income. Most activities were spearheaded by government agencies such as the Department of Community Development (KEMAS) and Department of Agriculture (DOA). Actually, support from the government was slow prior to the 1990s but the scenario has changed significantly during the Eighth Malaysian Plan in which women's participation in business has been

integrated as an agenda in the plan (Salleh and Mohd Osman, 2007). Government support was further discussed in Chapter 6.

The results discussed above might conclude that most polytechnic students, either male or female, score in the lower band and there is an unimportant difference between genders in the GETv2 Test. This is in line with Kourilsky and Walstad (1998) who reported that while both young boys and girls demonstrate low levels of entrepreneurial “knowledge and understanding”, girls are more likely to feel ill-prepared. However, this study shows that male respondents are slightly higher on entrepreneurial tendencies compared to female students in polytechnics. See Figure 7.9 above. It might be concluded that a masculine culture may not recognise gender issues of this nature. Additionally, it should be recognised that there is lack of woman in senior positions in both public and private sectors in Malaysia compared with men. In other words gender issues may still play an important role in higher positions in Malaysia whether in private or public sectors, but not be readily recognised.

9.6.4 Malaysia as a Heterogeneous Ethnic Society

The previous study found the interaction between culture and entrepreneurship is stronger in the case of some ethnic groups than others (Basu and Altinay, 2002). The quantitative part does not cover this issue due to the number of respondents not being sufficient for the test. This relates to the enrolments in polytechnics where the majority (90 percent) of the students are Malays compared to Chinese and Indians (10 percent). However, a previous study by Abd Rozan (2001) found the similar results in this context. This indicates the strength of their values is similar and offers a more unified view of Malaysian culture. The qualitative study found that a few respondents mentioned the issue of ethnicity in Malaysia. It refers specifically to the Chinese who are more in advanced on entrepreneurship. This is acknowledged in the statement below:

“This is especially true in Malaysia with the Chinese. I would say that the limitations as immigrants in the early history of the Chinese migrating to Malaysia set the stage. The Malays and Indians are following but still further behind. The intervention by the government policies as in the new economy policy has somewhat changed the scenario where more Malays were assisted to become entrepreneurs.” (Cexp1:L4).

To examine this issue, it is broken up into three areas:

9.6.4.1 The Historical Factor

Chapter 2 mentioned that Malaysia has a multi-racial and multi-ethnic population: Malays the indigenous people; and the immigrant Chinese and Indian. The economic imbalance and disparity amongst ethnic groups has become a major issue in the country since it became independent in 1957. The Chinese are perceived as being excellent in business and economy when compared with Malays and Indians who lack in economic development and have lower incomes in the country. In the 1960s there were economic gaps between Malays and Chinese that triggered a riot in 1969.

The historical background confirmed that the main causal factors of the riots in 1969 were the nation's economic disparities between Malay and Chinese ethnic groups. The proactive action by government policy played an important role in handling this problem such as the new economic policy 1979-1990, the establishment of BCIC, NDP and so on.

“Well, culture yes. As you know whether you are Chinese or Malay those who come from business family backgrounds tend to be concerned about business. It just so happens that at the moment, many more Chinese are doing business than the Malays, but the Malays are picking up...through culture. What happens is that observation and practice by children or siblings motivates them to do business. This allows some learning and skills acquisition that brings the confidence to do business” (Cexp1: L2).

Secondly, following implementation of affirmative action in Malaysia, inter-ethnic relationships became common at three levels. First, among leading Chinese-owned companies, prominent Malays were appointed to boards of directors, second at the level of SMEs, “Ali Baba”²⁹ relationships were forged and lastly among a few Malaysian elites, business partnerships were forged on a more equal basis (Gomez, 2007). In Britain, inter-ethnic partnerships involving migrants are usually people with “class resources”, that is they are well-educated or are people of financial means (p.170).

²⁹ Refer to non-Bumiputra doing a business with the Bumiputra's licence

9.6.4.2 The Social Factor

Another issue revealed by a university professor concerns the networking of Chinese students. In terms of job seeking their networking is more effective when compared with Malay students (Paragraph 8.9.6). They already have established networks among family members, clans or dialect groups in this country (Md Nor Othman *et al.*, 2006). Networking helps entrepreneurs to develop opportunities into marketable products and it may provide an entrepreneur with the required resources (Brand *et al.*, 2007). These situations inevitably arise from rooted attitudes toward enterprise creation that previously were divided along racial lines (due to the identification of race with economic activity). This situation is now beginning to change as the whole of Malaysian society begins to modernise and social restructuring begins to take effect (Ariff and Abubakar, 2003).

Md Nor Othman *et al.*, (2006) found that the majority of Malay entrepreneurs do not have a tertiary education compared with the Chinese. This may be due to the fact that most Malays who had achieved tertiary education may opt to work in the public or private sector, which provide them with greater job security compared with becoming an entrepreneur, which is considered a risky option. In addition, nepotism has been part of Chinese society and culture for centuries, and scholars have attributed it to a tradition among families that stresses obligation, loyalty, reciprocity and collectivism (Gomez 2007: p.155).

9.6.4.3 The Political Factor

Moreover the largest group in Malaysia (the Malays) is politically dominant but it has far lower average incomes and wealth than the Chinese minority. This has created a strong impetus to use political power to improve the economic position of the Malays (Snodgrass, 2004). Even when Malays obtained full support from the government under BCIC, NEP, NDP as discussed in Chapter 2, they are still under the target of 30 percent of bumiputera equity in the country. To date the data shows they had around 20 percent (Malaysia, 2006). This sensitive issue inevitably creates dissatisfaction with the government among non-bumiputra. Accordingly, the latest general election in 2008 illustrates a decrease in the number of supporters compared to the previous results, whereas the government lost 3 states to the opposition party.

To address the socio-economic issue and challenge, a new motto was introduced under the new Prime Minister: "1 Malaysia" "People First" "Performance Now" (1Malaysia, Rakyat Didahulukan, Pencapaian Diutamakan)³⁰. In other perspective, nowadays, Malaysia is a harmonising country which three major ethnics contribute to develop the country as their nation. This assertion is aligned to the previous study by Asma (1992) who found a commonality of the values that might be shared includes collectivism, compromise, food and ceremonies, respect for authority, harmony and tolerance, preserving face, religious, protocol and hospitality.

9.6.5 Family Background

The quantitative part is based on family business background and this is used to measure student tendency towards entrepreneurship. Interestingly, this variable did not give a positive impact regarding entrepreneurial tendency test. As demonstrated in Table 7.13 in Chapter 7 above, the quantitative part illustrates that the majority of polytechnic students are *less* enterprising with the score at 63 percent and 56.4 percent respectively. Interestingly, the scores from students with no family business background are *occasionally* and *high* 43.3 percent and 0.3 percent respectively. These results may cause a few factors such as respondents are not being exposed by their family even when they are from business families. In addition, parents queried the “future” of these students on graduation, as mentioned by DPCCE Director General. Indeed, it shows that family is not in support of developing entrepreneurial attributes amongst the polytechnic respondents in the quantitative part.

Elsewhere, the findings from the qualitative study contrast with the above result. Most of the respondents agree that these variables are interrelated and they influence the students towards doing business. The content expert asserts the idea that family background does contribute. “My research showed all these factors do correlate with involvements in business and also my encounters with the entrepreneurs” (Cexp1: L2). This is in line with Chrisman *et al.*, (2002) who stated that family businesses appear to start out larger, and presumably stronger, than their non-family counterparts even after

³⁰ A new motto introduced by Prime Minister, The Honorable Datuk Seri Najib Tun Razak , as cited from : http://www.pmo.gov.my/?menu=speech&news_id=118&page=1676&speech_cat=2

controlling for industry and strategic planning. These results are supported by Shapero and Sokol (1982) and Matthews and Moser (1995) who found that family, friends and other important people are considered as key in terms of their influence on whether or not a person decides to start a new business venture.

In Malaysia, as discussed in the section on ethnic issues for both Chinese and Indian Muslims in Malaysia, the talent of business was inherited by the new generation. In addition, research on Chinese enterprise has indicated convincingly that in family enterprises, kinship ties are crucial in raising funds to get firms incorporated and functioning (Gomez, 2007). In addition, Malaysian economy observers have noted that Chinese culture, based on the notion of *guanxi* capitalism (network capitalism) is the key to successful entrepreneurship and small business development (Yeung and Tung, 1996; Pun *et al.*, 2000, Gibb and Li, 2003; Gomez 2007).

In the collective family, children learn to take their bearings from others when it comes to opinions. Personal opinions do not exist - they are predetermined by the group. If a new issue comes up on which there is no established group opinion, some kind of family conference is necessary before an opinion can be given (Hofstede and Hofstede, 2005: p.87). Losing one's dignity in the Chinese tradition is equivalent to losing one's eyes, nose, and mouth (p. 209). Their study also shows that Malaysia scores lower in Individualism (26). These indicate that both Chinese and Malay are low in the individualist index and high in the collectivist index. Thus, it is in line with qualitative study as reported under Paragraph 8.9.6. The results show that Chinese graduates are more employed compared to Malays due to their networking, as mentioned by university expert. In the business perspective, Chinese people have a strong relationship to their family and community; meanwhile Malays are more collectivism in helping each other through the government agency. This issue is perceived by the agencies involved in assisting Bumiputrans to develop their economy.

In conclusion based on the empirical study above it appears that family background strongly influences students towards entrepreneurship. This is in line with the cultural study by Hofstede who found that Malaysian people are more collectivist, as discussed above. According to Morisson (2000) family background becomes a motivator, banker and mentor for any new venture involving an entrepreneur by playing a role in two ways. First, if an entrepreneur has previous experience of the effect of entrepreneurship

from a family member they are more prepared for the consequences of their own activities. Second, family support of entrepreneurship can make a positive contribution to its sustenance.

9.6.6 Religion and Values

The qualitative research revealed that 20 percent of respondents were trying to associate entrepreneurship with their religion, particularly Islam. Islamic values are perceived as an important characteristic of the entrepreneurial scholar. The INSKEN Director stated that religions basically encourage people to be involved in business rather than to be employed, whether in a private or public agency. She noted that:

“We as Muslims know that business is 9/10 of our rezeki (income). We should be doing business as our first choice career and if we could not do so after some attempts only then could we resort to the next 1/10 of rezeki (income) which is having a paid job.”

This is in line with the comments in Chapter 6: Muslim people believe in religious freewill (ikhtiar), whereas according to Muslim teaching attentive people will get more income compared with idle people. The importance of religion in entrepreneurship is also expressed by the expert from the university, her arguments is:

“We do incorporate the teaching in Islam that encourages entrepreneurship as following the example of the prophet, his wife and his companions who were involved in business. And of course there are also verses in the holy Qur’an that support business and elaborate on business ethics and best practice. Many entrepreneurs these days are incorporating religion as their motive for starting the business.” (Cexp2:L4).

However, one of the experts argues that people do business not because of religion but for other reasons. Her statement is based on this argument:

“Even though our religion encourages us to do business most of the time during my encounter it’s not the reason. They do business because of the money and for some others it is out of desperation etc.” (Cexp2: L2)

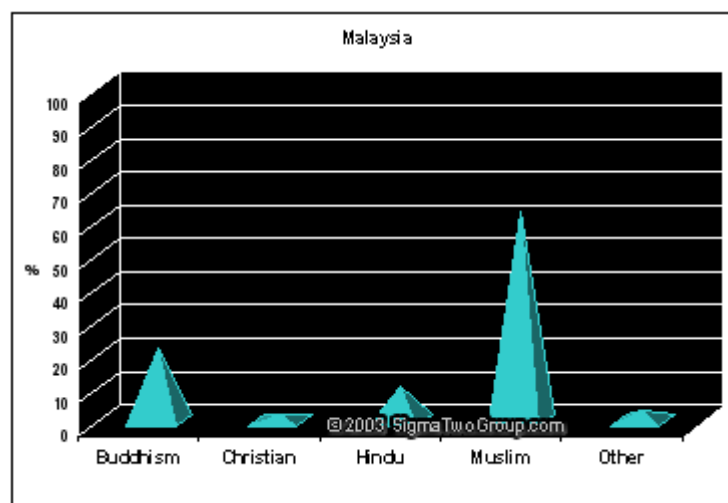
This assertion is in line with the previous study by Asma (1996) who argued that “Malaysians, whether Malay, Chinese or Indian, on average believe that money is the

main reason why people go to work”. This study also found that there is an attempt to incorporate Islamic values in the curriculum as stated in the new curriculum topic PAD 8012 *Entrepreneurship* under “Islamic entrepreneurship”. The research concludes that all respondents agreed that Islamic values were of paramount importance and there is a move towards introducing entrepreneurial values to the students. This is in line with Suhaili Sarif, and Azlan Amran, (2006) who stated that Islam encourages entrepreneurial development and business related activities among its followers. This assertion is recognised by the one of the industry respondents.

“Religions and religious should not be the obstacles at all. It should be the main cause of successs.” (Ind:R1)

A good Muslim normally follows the teaching by The Holy Qur’an (Koran) and from the Prophet Muhammad (pbuh)³¹. Hofstede Model (1991) also discussed in detail this issue.

Figure 9.1 Correlation between the Muslim religion and the Hofstede Dimensions of Power Distance (PDI)



Source: Itim International, 2009

In terms of religion and management, Figure 9.1 shows that there is a high correlation between the Muslim religion and the Hofstede Dimensions of Power Distance (PDI) and Uncertainty Avoidance (UAI) scores. The combination of these two high scores (UAI) and (PDI) create societies that are highly rules-oriented with laws, rules, regulations, and controls in order to reduce the amount of uncertainty, while inequalities

³¹ Peace be upon Him

of power and wealth have been allowed to grow within the society. These societies are more likely to follow a caste system that does not allow significant upward mobility of its citizens (Itim International, 2009). So far, Islam has hardly been researched as a category of oppression in relation to gender and ethnicity within the construction of entrepreneurial identities (Essers and Benschop, 2009).

The findings above give a few implications for the study. Firstly, unexpected issues emerge such as religion, and values become a new variable needing to be studied. Islam is the religion in the study that might be a motivation to start a new venture. To date only a few studies have been carried out regarding this matter as mentioned by Essers and Benschop (2009). The Islamic culture also emphasises equilibrium between work and personal life and between spiritual and material aspects of life (Elkhouly and Buda, 1997). Entrepreneurs are expected to maintain a balance between the desire for profit and the obligation to serve the society and it may be that insufficient attention is given to the relationship between entrepreneurial characteristics and national culture, as well as structural elements influenced by or directly related to culture (Farid and Zarb, 2007).

It also may relate to the Confusion work dynamism as described by Michael Bond which becomes one of the elements in the Hofstede study of culture. This element inevitably influences the results of the study especially the study involving multi-ethnic races similar to Malaysia. Confucian teachings are lessons in practical ethics without a religious content. Confucianism is not a religion but a set of pragmatic rules for daily life derived from Chinese history (Hofstede and Hofstede, 2005: p.208). In other words, religion, values and ethics play important roles in developing human behaviour in society.

9.6.7 Summary

Currently the study regarding cultural issues such as ethnicity, gender, and religion becomes an interesting study. The woman's involvement as a business person is perceived as an important role especially in small to medium industry nowadays. Islam, as a religion in Malaysia needs to be explored by conducting research; this was not possible due to limited study regarding this matter as mentioned above. The research on students' backgrounds also needs to be expanded as it was found to strongly influence the tendency towards entrepreneurship in future.

9.7 Conclusion

In conclusion, entrepreneurship becomes an effective module for Commerce students, (P 3117) but improvement of the module should be embarked on. Entrepreneurship as a sub-topic in the co-curriculum module, R2001 was found not to be effective and the new elective module, P3130 still cannot be evaluated since only 20 percent of polytechnics offer this module. The discussion also focuses on the factors that contribute to this result such as shortage of lecturers, ineffective curriculum, lack of training among the lecturers, financial problems, there is no responsible unit to manage the programme, etc.

Based on the findings above it can be concluded that instead of curriculum, pedagogy and others, the non academic issue (management and culture) should be considered during the development of curriculum with regard to entrepreneurship. Moreover, these findings might be contributed to a macro level especially in the planning process of the educational system in the country.

CHAPTER 10

CONCLUSION AND RECOMMENDATIONS OF THE STUDY

10.1 Introduction

The preceding chapter discussed the four major issues in the study and simultaneously responded to the research questions. In general, these are ultimately regarded as the main factors that contribute to the development of entrepreneurship education in Malaysian polytechnics. Enterprise education has emerged in different educational contexts as a route to developing an entrepreneurial culture, to promote enterprise, to create new ventures, and to foster entrepreneurial mindsets through education and learning (Kuratko, 2005). This chapter will conclude the main findings of the study include the issue of curriculum and development, pedagogical issues and training, and lastly the need of entrepreneurship centre/unit in the polytechnic educational system. External factors such as the cultural issues and industry involvement will be perceived accordingly. Subsequently, the contribution of the study to the knowledge, theory and practices becomes the essence of the study. Then, this chapter covers the implications and the limitations obstructing the progress of the study. This study will end with future research direction.

10.2 Aim and Key Findings of the Study

The aim of the study is to explore the effectiveness of entrepreneurship education implemented in Malaysian polytechnic. In general, the study found that entrepreneurship education has become an important instrument for solving the problem of unemployment among the polytechnic graduates. In order to achieve the target, there is an impediment that needs to be improved. The following summary shows the findings according to the objectives stated in the Chapter 1.

10.2.1 Objective 1 - To identify empirically the extent to which current entrepreneurship education influences polytechnic students' towards developing entrepreneurial tendencies;

The quantitative study using GETv2 Test indicated that polytechnic students score at 25.53. These signify that polytechnic students appear to have a lower propensity to be entrepreneurs; in other words they prefer to be an employee after graduation. The qualitative study conducted through interview, focus group and observations support this finding. This study explains the occurrence as stated below;

Firstly, the study identifies that the entrepreneurship syllabus in polytechnics is not effective and students are not imbued with entrepreneurial knowledge, skills and attributes throughout their study in polytechnics. The study expose that the current entrepreneurship syllabus in polytechnics is outdated. This issue was recorded under 8.3.2 and discussed in Chapter 9. In order to overcome this issue, the study suggested that the existing curriculum need to be reviewed includes the content, objectives and assessment methods.

In order to improve the current practice of the entrepreneurship curriculum (objective and content), this study proposes a new entrepreneurship curriculum at two levels, namely type 1 and 2. Tables 9.3 and 9.7 show the objective and the content proposed in the study. These might be used as guidelines in the curriculum development process. The content should be flexible and 'friendly' to lecturers and students. For instance, it may need some adjustment due to changes in technology and environment, government policy, new input from stakeholders, etc. In other words, the lecturers will be 'freed' to make changes to the content to a certain percentage (i.e 5-10 percent) then inform the headquarters for the purpose of synchronisation.

The existing method of evaluation was identified to be too "exam-oriented". Accordingly, it needs to be changed. This study suggests that polytechnics should revise the current examination system towards a more practical based approach such as Classroom Assessment Techniques³². Students should be accessed through their psychomotor capability rather than cognitive ability. The method of evaluation should encourage students to be more creative and innovative in the teaching and learning process. In addition, the period of continuous assessment should be prolonged and the

³² Classroom Assessment Techniques are formative evaluation methods that serve two purposes. They can help you to assess the degree to which your students understand the course content and they can provide you with information about the effectiveness of your teaching methods. Most are designed to be quick and easy to use and each CAT provides different kinds of information (<http://www.celt.iastate.edu/teaching/cat.html>)

methods should be multiplied. In order to be effective, techniques such as quizzes, peer assessment, simulations, assignments, and presentations need to be explored.

Secondly, there are a few mechanisms in the monitoring system such as ISO, monthly report, and inspection from headquarters. A redundant function was found between departments such as CDED and PMS where it is difficult to distinguish their job specification regarding this matter. Centres or units should be established in polytechnics to monitor entrepreneurship education; curriculum, activity and programme. Initially the purpose of monitoring is to validate the syllabus and concurrently to solve problems as they arise. The study found that the monitoring system is an instrument for “check and balance” of the activity and programmes in the polytechnic and is not to insult such institutions but to share the experiences with each other. In order to be effective, the function of the existing method of monitoring by ISO, head of department, CDED and PMS needs to be reviewed. At a macro level, a special body such as School Inspectors, Ministry of Education Malaysia should be studied to perceive the suitability of this kind of department in DPCCE.

Thirdly, the study found that there is no unit/division which is directly responsible to entrepreneurship in the polytechnic educational system. It is worse compared to other institutions in Malaysia which are already well established since the institutions were developed. One of the important issues raised by the study is the “coordination” of activities amongst the polytechnics. This matter was discussed in depth in Paragraph 8.2.5. In addition, there are opinions from interviews and focus group discussions. Successful institutions usually have their own entrepreneurship centres to coordinate the project and activities in the institution. For example, in UiTM, all the activities including training were managed by the Malaysian Entrepreneurship Development Centre (MEDEC) and Cooperative and Entrepreneurship Development Institute (CEDI) in UUM. In the United States there is The Kauffman Centre for Entrepreneurial Leadership.³³ In conclusion, the entrepreneurship unit or centre should be established as suggested by all (100 percent) of the respondents. The main function of the unit is to be directly responsible for entrepreneurship education including the curriculum, activity and programmes and budgets. The idea of coordinating all the activity and programmes

³³ is the nation’s largest organisation focused solely on developing, supporting and encouraging entrepreneurship education and research

in polytechnics should become a priority for administrators to ensure that entrepreneurship is an important agenda in the institution. In addition, the idea of coordination of the activity and programme is in line with the polytechnic administration policy which is centralised.

In addition, the study exposed that the cooperation and networking within the agencies under DPCCE whether domestic or international is low. The implementation of entrepreneurship activity and programmes is based on the polytechnics' own creativity and there is no coordination of activity and programmes between the polytechnics. In the new world order "networking" amongst the polytechnics or inter-department is of paramount importance. Cooperation with industry and government institutions enables polytechnics to share the expertise and experience under the concept of a "win-win situation". Moreover, international networking becomes a new period of educational development. Therefore, networking with industry and other agencies is expected to be improved. For instance, in the UK Mercia Institute of Enterprise (MIE) was launched in 2001 and now comprises a consortium of 12 Higher Education Institutions with the common objective to promote Enterprise and Entrepreneurship in the West Midlands (Smith, 2006). In Malaysia, as mentioned under Paragraph 9.5.2.3, the cooperation between UKM and Surrey University triggers the new concept of networking under an internationalisation policy in education.

Lastly, the study found that there is no special budget or allocation for the implementation of entrepreneurship education from the headquarters either from DPCCE or MoHE. The activity and programme executed by the creativity of the lecturers to find the source. As discussed in-depth in Chapter 9, a special budget to launch the entrepreneurship activity and programme should be allocated by the headquarters. Based on the current practice, all heads of department use their own capability to create a fund for such projects or activities. However, some of the polytechnics are not proactive in this matter, consequently there is no activity implemented in the institutions. To be more successful, I suggest that the ministry (MOHE) or department (DPCCE) should provide a certain amount of budget for this programme. The budget should channel under a yearly grant which is normally allocated under student activity and so on. For instance, the Chinese government upon the promotion and development of SMEs involves the higher educational institutions to

play an important part (Jun Li *et al.*, 2003). Hence, the financial issue is of paramount importance in order to perceive entrepreneurship is running as planned in the initial stage.

10.2.2 Objective 2 - To investigate how entrepreneurship education is nurtured/cultured in polytechnic systems;

The study found that entrepreneurship education was nurtured through curriculum and activities. There are three curriculums in the study which is Entrepreneurship (P3117) offered to commerce students. For non commerce students entrepreneurship incorporated to Co-curriculum Module (R2001) through elective module Entrepreneurship Development Module (P3130) respectively. The cultural issues perceive as one of the main issues in the study. Cultural influences such as norms, gender, values, religion, family back ground and ethnicity become important factors that influence students' tendency towards entrepreneurship. The issue regarding to the religion found is a motivation factors to encourage people to get involves as entrepreneurs.

The interview respondents within the industry people had consensus that they need students who are creative, innovative, able to make a decisions, good in communication skills especially in English, able to work in team and have capabilities as leaders, etc. In other words it refers to the entrepreneurial characteristics which were discussed in-depth in Chapter 3. Industry involvements in curriculum development in polytechnics are perceived in 3 levels: as one of membership of a Curriculum Board; secondly as a curriculum adviser; and lastly, as a curriculum developer. This is in line with the report on Industry Dialogue, 2008 in which more than 70 percent of the respondents would like to share their expertise in curriculum development in the polytechnic and community college programmes. In addition, their involvement also is perceived as being guest lecturers in the institutions. From the survey, more than 70 percent of the respondents were found to have partnerships with DPCCE's institutions in the areas of student industrial attachment and recruitment of graduates and 21.4 percent had been involved with a lecturers' internship programme. 85.7 percent of (36) respondents express interest to collaborate with DPCCE as compared with 59.5 percent (25) who already have direct collaboration with DPCCE (Industry Dialogue, 2008).

In addition, the activities planned by the lecturers found still infancy and need to be improved and supported. The programme categorised under extra curricula activity is different between the institutions under study. For instance the students were asked to conduct a business during the graduation day, organise an entrepreneurship week, invite the speakers to give a motivation and others. In addition, this activity becomes one of the corporate social responsibilities from industry to society. In turn, this also becomes a route for industry in developing their cooperation with the public sector. For instance, the Malaysian Industry-Government Group for High Technology (MIGHT) was established to enable consensus building and coordination for Industry-Government partnerships in high technology (Web MIGHT, 2009). This kind of smart partnership enables both parties in sharing the facilities and expertise, for example the private sector has an opportunity to train their staff in the government training centre such as with INSKEN.

10.2.3 Objective 3 - To investigate the effectiveness of pedagogical methods in polytechnics offering courses on entrepreneurship.

The GETv2 Test reported that Polytechnic lecturers were found not inculcated with entrepreneurial skills and knowledge. This issue exposed due to lack of experience among the lecturers, shortage of lecturers, the size of the students in the classroom and the problem related to the training programme. The study found that only a few of the lecturers had such exposure through the provision of appropriate training, however, in any case was now outdated.

In terms of delivery method the study found that the current method of learning currently implemented is not effective. The chalk-and-talk approach appears to fail to encourage students to learn about entrepreneurship in the institutions under study. The polytechnic lecturer should have awareness that entrepreneurship is a practice-based module. Hence, students need to be exposed to a practical teaching technique. The new method of teaching should focus more on practical rather than too theoretical approaches. For example experiential learning, exploratory techniques and problem based learning found more practical to the study (see Paragraphs 4.5.2, 8.7.2 and 9.4). Teaching outside the classroom perceives a practical method of studying

entrepreneurship, such the industrial visit programme. Students are anticipating getting experience and having a real picture of the business world. In addition, these real situations provide them with more knowledge and awareness concerning an entrepreneur's natural life. The successful entrepreneurs perceived as a 'model' should be invited as guest speakers to give a talk regarding their experience in the business world.

Polytechnic lecturers were found not inculcated with entrepreneurial skills and knowledge. Only a few of the lecturers had such exposure through the provision of appropriate training, which, in any case, was now outdated. Chapter 9 presents a detailed discussion on the need of training for entrepreneurship lecturers. Competence relates to the individual performance of professionals, entrepreneurs or employees. It denotes the complete range of occupational or entrepreneurial problems that professionals or entrepreneurs are equipped to handle (Onstenk, 2003). In order to produce the effectiveness of delivery methods, entrepreneurship lecturers as professionals are anticipated to have competence in this area. Towards the competence lecturers in polytechnic, the Training and Career Development Division, DPCCE should enhance their programme especially in conducting training for entrepreneurship lecturers. To be more effective, the selection of a training centre is considered to be of importance. For instance Babson College (USA), NCGE (UK) or other centres which have identified and proven capabilities in this particular field. Alternatively, the exposure to entrepreneurial skills, knowledge and attitudes might be nurtured by internship programmes or industry attachments, whether in local or international programmes. As a long-term project, polytechnic lecturers might be given an opportunity to further their study to a higher level such as MBA or PhD in entrepreneurship. As mentioned in Section 9.4.4, the opportunity for a lecturer to develop their career future should be encouraged in line with government policy on human capital as stated in the Ninth Malaysian Plan (2006-2010).

10.3 Implication of the findings

10.3.1 Contribution to the Theory and Knowledge

In term contribution to the knowledge, the study found that the cultural heritage of Malaysia which is based on high-power distance relationships means that the stakeholders expect and welcome a certain degree of centralization. In other words the polytechnics expect some direction from the Ministry and the Ministry expects to exert some control. While this may not be the most desirable situation in that this system may not empower lecturers to exercise complete flexibility and creativity this may be a necessary transitional stage at this point in time. It may be that increasing autonomy can be given to polytechnics in a planned way as entrepreneurship education develops in Malaysia over the next period. Hence it appears to be the case that the Ministry needs to provide guidance to improve education in this area, but also needs to remain open to the idea of empowering polytechnics and lecturers to develop innovatory teaching and learning methods over the next few years. At least there may be some recognition that completely centralized control by the Ministry may not be ideal in the long term.

The issue of ethnicity is inherited from the colonial era in Malaysia when ethnic groups were diffused as a result of economic background as mentioned in Paragraph 2.2.3. In this context, ethnicity includes three major ethnic groups: Malay, Chinese, and Indian. Only the Malay and Chinese groups are considered as relevant to the study. This study found that the Malay and Chinese have different attitudes towards entrepreneurship, which is in general that Chinese are perceived as more entrepreneurial than Malays. This relates to family background in that Chinese people are more exposed to business than the other races. This inevitably relates to the Chinese ethnic belief of *guanxi* in Confucian teaching which stimulates them to be successful in business. This value needs to be explored as one of the tools in developing an entrepreneurial culture in Malaysia. To be successful, Malaysia needs to try and understand the way in which racial and ethnic boundaries shape, and may limit, changes that are required to achieve the status of develop nation in 2020.

Furthermore, at the moment the Malay people are encouraged by the government to be involved in entrepreneurial activity rather than depend on traditional jobs in the village as a peasant. The government is responsible for educating them to be entrepreneurs in order to increase their income and the quality of life. Propensity or inclination towards entrepreneurship and small business is commonly associated with several personal characteristics that might be expected to be influenced by a formal programme of education (Gorman, Hanlon and King, 1997). Indeed, this indicates that education plays an important role in nurturing a united community with a life in peace and harmony. In this regard, I would like to suggest that all Malaysian students need to be given similar opportunities to develop their studies in this area. The existing policy, meritocracy³⁴, needs to be expanded to all government institutions especially in the selection of university candidates and scholarship.

In terms of gender issues, in Kelantan women are perceived as more entrepreneurial as discussed in Paragraph 9.6.3. This is contrast with the GETv2 Test score in polytechnics where there is a slight difference between the genders with males being perceived more entrepreneurial than female students. These results may be affected by the imbalance in respondents in which females are 61.6 percent compared to male students 38.5 percent. However, gender issues cannot be neglected in the study of entrepreneurship education worldwide.

In addition, the religion: while, from Western perspectives there is a misplaced view that the Koran may be somewhat limiting, constraining and prescriptive, a fuller understanding of Islam shows that the Koran is in fact very encouraging of entrepreneurial activity and should provide motivation for individuals to pursue self development through business pursuits. Indeed the prophet Muhammad himself was an example of a successful businessman. To begin with he helped in his family's small business looking after their farm. Perhaps even more interestingly he was instrumental in helping his wife, Khadijah, set up and manage her very successful trading operation trading goods between Mecca and Syam. At this time Khadijah was 40 years old and Muhammad was 25. Khadijah eventually became a millionaire. This has important implications for our previous discussions of age and gender and perhaps should be understood more widely to give encouragement to entrepreneurship teaching in

³⁴ Meritocracy is a system of a government or other organization wherein appointments are made and responsibilities assigned to individuals based upon demonstrated talent and ability (merit) retrieved from <http://www.merriam-webster.com/dictionary/meritocracy>

predominantly Muslim countries such as Malaysia. These kinds of roles models are not widely used but are a reflection, of the potentially beneficial relationship between business and religion.

Furthermore, a strong thread running through the Koran is the link between doing good and receiving rewards from the Gods (Refer paragraph 3.6.6). Therefore being entrepreneurial could be argued to be likely to lead to personal rewards – underling the individual rationale for supporting entrepreneurship. This could be seen to complement the social rationale of the Ministry whose aim is improve the economy. In relation to this, social entrepreneurship has become a new issue arising from the study. It comes under corporate social responsibility when the industry people feel that their contribution to society has become a business agenda. See Paragraph 8.2.4.2. Even when there are compulsory contributions to the nation as a tax payer, with their responsibility they also have to pay a zakat³⁵ to the Islamic religion. These contributions will be distributed to the society of the nation.

Overall, this study found that the cultural issues (gender, values, religion, family background and ethnicity) were perceived to play an important role in developing entrepreneurship education in Malaysia. It needs to be highlighted as a new major issue alongside the curriculum, pedagogy and management aspects which are commonly debated in the literature. Historical studies such as those by Gibb (1999) may need to be reformulated in a global context.

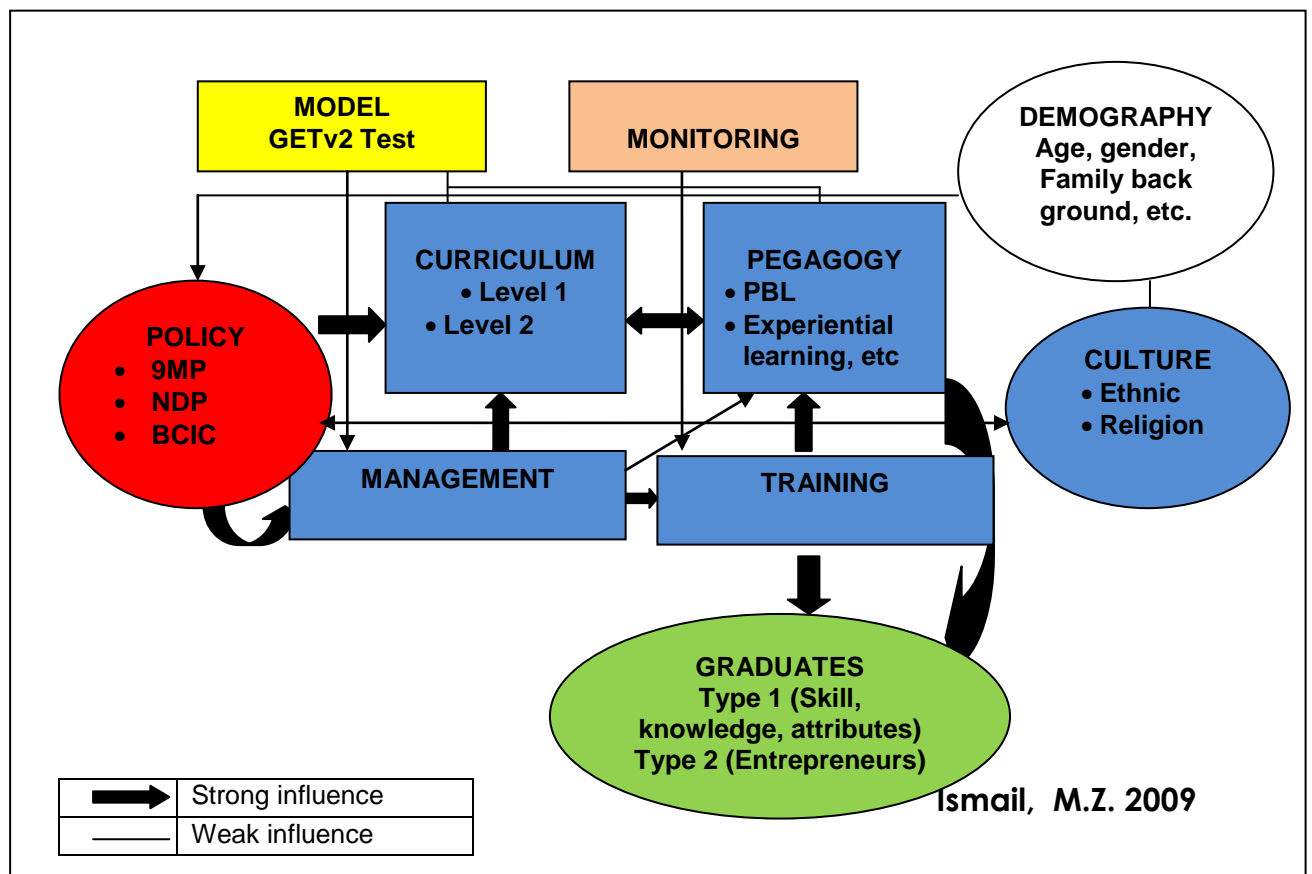
10.3.2 Contribution to Practice

Several entrepreneurship models were discussed in the study (see Chapter 3). The study found that there is no single model appropriate to the polytechnic education system. In other words, the assertion “one size fits all” is not relevant to be applied to all institutions. This is in line with the latest findings reported in The World Economic Forum’s Global Education Initiative (GEI). The forum agreed that local context must be taken into account in devising and tailoring a set of programmes and initiatives relevant for each area (Wilson, 2009). In this context, a model was developed to assist

³⁵ "The charity (Zakaat) is only for the poor, the needy, those employed to collect (the Zakaat), those whose hearts will be inclined (towards Islam, by giving them Zakaat), for slaves, for those in debt, for (Jihad in) the Cause of Allaah, and for the wayfarer (i.e. destitute traveller). It is an obligation imposed by Allaah, and Allaah is the All-Knower, the All-Wise." [Surah At-Tawbah: 60]

curriculum developers in designing the curriculum in order to develop polytechnic students to be entrepreneurs. The factors such as government policy, curriculum, pedagogy and culture are found to be important in the study. The model is known as CPPC Model: Curriculum, Policy, Pedagogy and Culture. Model shows in Figure 10.1 below was developed based on findings in the field work of study. This is in line with the grounded theory as discussed in Chapter 5. Additionally, Eisenhardt (1989) notes that the researcher typically combines a multiplicity data collection methods in building a theory, which involves interviews, observations from previous literature, and archival sources.

Figure 10.1 CPPC Model



The degree of relationship (influence) shown here is based on the findings from field work during observation and in the interview sessions. This study found that there are five main factors which strongly influence the type of graduates in polytechnics. These are the curriculum, pedagogy, management, culture and training. This issue was discussed in-depth in Chapter 8. To illustrate this point, 90% of the respondents agreed

that the government policy is the most important factor in starting project. Furthermore, 80% of the respondents indicated that pedagogy is not effective and it should be replaced by a more practical way of teaching entrepreneurship. The study found that 90% of the lecturers appeared to lack relevant skills and experience in this area. However, relatively fewer respondents mentioned issues to do with monitoring systems and demography (See paragraph 8.9.7).

Figure 10.1 above illustrates that the CPPC model stands on five pillars: It started with the *government policy* such as the Ninth Malaysian Plan (9MP), National Development Policy, Bumiputera Commercial and Industrial Community (BCIC), etc. The Ministry of Higher Education, especially DPCCE will execute this policy such as through the curriculum. Secondly, *the curriculum* is more practical to disseminate the curriculum based on two levels: Level 1 or Level 2 curriculums. Level 1 aims to develop students in Type 1 which is creating awareness amongst students with knowledge, skills and attributes. Otherwise, Level 2 curriculum aims for developing an entrepreneur in Type 2 graduates.

Table above also shows a strong influence between government policies and the stakeholder's i.e polytechnics management, curriculum developers and training providers. The cultural heritage of Malaysia which is based on high-power distance relationships means that the stakeholders expect and welcome a certain degree of centralization. In other words the polytechnics expect some direction from the Ministry and the Ministry expects to exert some control. While this may not be the most desirable situation in that this system may not empower lecturers to exercise complete flexibility and creativity this may be a necessary transitional stage at this point in time. It may be that increasing autonomy can be given to polytechnics in a planned way as entrepreneurship education develops in Malaysia over the next period. Hence it appears to be the case that the Ministry needs to provide guidance to improve education in this area, but also needs to remain open to the idea of empowering polytechnics and lecturers to develop innovative teaching and learning methods over the next few years. At least there may be some recognition that completely centralized control by the Ministry may not be ideal in the long term.

The *pedagogy* or teaching method is the third pillar in this model. The current approach of pedagogy such as action learning, problem based learning and experiential learning

used to replace the traditional method of teaching. In the implementation of the curriculum, lecturers are observing under the monitoring system. The lecturers also will have training or apprenticeship programmes in order to provide a practical approach to teaching and learning entrepreneurship. The lecturer may be assisted by real entrepreneurs in teaching under the smart partnership cooperation between agencies. Additionally, *culture* is an important criterion in supporting entrepreneurship in Malaysian polytechnics. The Figure above shows a weak influence between the culture and graduates and government policy respectively. Religion, and ethnicity are found to influence the success of entrepreneurship education. Lastly, the *demographic* factor is perceived to be an important element especially as the study involves respondents with various backgrounds.

During the study, the GETv2 Test was used as an indicator to measure to what extent polytechnic students were embedded with entrepreneurial characteristics. Lastly, the comprehensive process above is expected to give an overall view of the process of developing “entrepreneurs” in Malaysian polytechnics. This is in tandem with the human capital policy as suggested by the government as a core policy in the Ninth Malaysian Plan (Malaysia, 2006). It is argued that this model is particularly useful in helping to design an effective entrepreneurship curriculum in Malaysia since it has been developed in precisely this context. This model might be used to replace the existing model (Refer Figure 3.1 in Chapter 3) in Malaysian polytechnics.

This study has provided one of the most comprehensive and wide ranging examinations ever undertaken of the entrepreneurship curriculum in Malaysia. One of the key findings to emerge is that of culture. Cultural influences such as gender, values, religion, family back-ground and ethnicity are important factors that influence students’ tendency towards entrepreneurship. Hofstede found that Malaysian people are collectivist in decision making. In the collective family, children learn to take their bearings from others when it comes to opinions (Hofstede and Hostede, 2005: p.87). As mentioned in the tracer study report, the majority of polytechnic students favour working under supervision, and only 9 percent of the respondents have their own business (Kajian Pengesanan Graduat Politeknik, 2007). In other words, they are not ready to be self-employed. The research presented here found that some factors that contribute to an explanation of these results.

Malay people usually feel complacent in working with the government or private sector. This is based on their family work experience which is normally working with the government. In this context, the family background might be influencing students in deciding their future career. This is in line with the GETv2 Test which shows there is no difference between family background and entrepreneurial tendency amongst the polytechnic students. In order to be successful as an entrepreneur, this attitude needs to be changed. The traditional culture and mind set inherited from the previous generation needs to be modified. They have to be bold in decision making particularly in deciding on a career as an entrepreneur.

Respondents felt that a centralized monitoring system implemented in DPCCE, MoHE should play an important role in ensuring the entrepreneurship curriculum is in tandem with government intentions. It is intriguing that this central control of government is apparently accepted by the lecturers and management alike and not questioned, and yet this may be in direct contradiction to the flexible entrepreneurial spirit/expertise that is required. This issue is related to the high power distance culture of Malaysia where “the Boss is always right” has long been practised. Based on working experience, the staff normally follow the policy that been decided by the top management level, especially from the Ministerial level. It may be that the autocratic power of top management needs to be reduced and the government policy of centralisation changed to one of decentralisation more commonly used in developed nation such as UK. However this will require some difficult and challenging re-orientations and will not be easily accomplished.

In term of new practice, the process of developing a new entrepreneurship curriculum is embedded in the study. This study found the rationale for the entrepreneurship curriculum in polytechnics is introduced on two levels (see Chapter 9). The first level is compulsory for all polytechnic students and is offered in the early semester. Students in level 1 are introduced to entrepreneurship such as the introduction to the entrepreneurship (see Tables 9.3 and 9.7). The objective of this level is to create an awareness of entrepreneurship. This is in line with Donckels (1991) who concluded that the primary role of entrepreneurship education should be to increase awareness of entrepreneurship as a career option although both secondary schools and universities should also introduce students to the knowledge and skills required by entrepreneurs. The first level module is a pre-requisite module before students register to the second

level module. It offers an in-depth study for those interested in becoming entrepreneurs. In other words, this elective module is intended motivate students to become entrepreneurs after graduation. In conclusion, 2 modules of entrepreneurship curriculum should be introduced in polytechnics, rather than relying on the existing module.

10.4 Limitations of the Study

As with much research, one of the greatest challenges of this study was the data collection process since it was collected as cross-sectional data. Cross-sectional studies are designed to obtain research data in different contexts, but over the same period of time. This study was conducted under conditions of time constraints and limited resources. This study also found difficulties in obtaining original data from the government. Regulations such as the General Order and Official Secrets Act 1972 (Act 88), and bureaucracy, were obstacles to the process of collecting data.

Industrial involvement plays a crucial part in curriculum development: for example in terms of a curriculum board committee, a curriculum advisory committee or a panel contributing to development of a curriculum. In the study, only two of the industry respondents agreed to share their ideas. This is in line with Saunders *et al.*, (2003). They found that in data collection, physical access to organisations can be difficult for a number of reasons. For instance, organisations or individuals may not be prepared to engage in additional or voluntary activities because of the time and resources required.

There may be challenges regarding the implementation of research findings and there may be a lack of endorsement and recognition from the management level in Malaysian polytechnics. Research in Higher Education Institutions in the UK has shown that it would be difficult to embed such a programme for a number of reasons. These include resource limitations and lack of training in synergistic methods. There is also the problem of finding suitable entrepreneurs to take part in the programme and finding the right space in the academic timetable and curriculum (Smith *et al.*, 2006: p.555). This is in line with Kitto (2006) who points out entrepreneurs face unique challenges in education, such as resistance to change and difficult regulations. The high power

distance culture means that the study will not have an impact on practice if it is not recognised by the top management level.

In terms of methodological approach, the GETv2 Test had been successfully developed and tested in European countries, particularly in UK. However, in Malaysia the barrier for the test is in understanding the statement given in the questionnaire. In the data collection process, it found that “language” becomes a stumbling block in answering the questionnaire. For students, even though the questions were translated in the Malay version, there were still some problems in understanding the questions. There is thus the possibility that results may have been affected by language issues. Obviously it is always desirable to be able to use the original questions rather than a translation, but in this study that was not possible.

Interviews with Ministers were delayed on some occasions, due to the fact that Malaysia was conducting a general election during the study period. The three month period of data collection, while short, was extremely costly in terms of financial resources (accommodation, transport and so on) and so could not be feasibly extended.

10.5 Suggestion for Future Research

Entrepreneurial research and education are increasingly evolving and as such the area requires continuous study. The results of this study have identified several possible avenues of further research. The findings of the study have converged on entrepreneurship education (curriculum, activity and programme) and the student tendency towards entrepreneurship. The study revealed some areas of interest for further exploration.

10.5.1 Cross-sectional vs. longitudinal study: To add to our understanding there is a need for more longitudinal studies to be carried out to enable researchers to examine changes in students’ attitudes towards entrepreneurship over their period of study. It is suggested that similar students/respondents should be selected for the study starting from the first semester to the last semester after the student has already been exposed to entrepreneurship education. Post-graduation studies are also needed to explore what

happens to students after graduation and to assess the impact of entrepreneurship education on future career choices and employment paths.

10.5.2 Entrepreneurial leadership study: A study should be conducted on the top level of management in polytechnics in order to better understand their entrepreneurial leadership in establishing an entrepreneurial culture in the polytechnic system. This is important as there is a need to create awareness of entrepreneurship in the polytechnic system. The GETv2 Test could be used in this respect. Certainly, entrepreneurial awareness in the polytechnic education system might be improved if top management have some relevant knowledge and understanding and periodic training might be necessary to bring this about.

10.5.3 Psychological theory: Instead of the GETv2 Test, the researcher suggests a similar study should be conducted using another psychological theory such as Theory Plan Behaviour (Ajzen, 1988, 1991), Shapero's model of entrepreneurial event (SEE) (Shapero, 1975; Shapero & Sokol, 1982) and other related models to test the validity and reliability of the study.

10.5.4 Entrepreneurship Study Centre: The study found that there is no existing established research on the current state of entrepreneurship centres in Malaysia. This area has become important because most of the higher education institutions expect polytechnics to have their own centre. These research needs should come under the ministerial level in order to set up a new centre in polytechnics.

10.5.6 Islamic entrepreneurship: Islamic entrepreneurship in Malaysia is still in its infancy in the literature and this area of the study should be encouraged. As a developing Muslim country, Malaysia needs to take responsibility to explore the new perspectives given here, particularly since the majority of Malaysia is Muslim.

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APPENDICES

Appendix 1

Sample of Interview and Focus Group Questions.

Main Theme	Interview/ Focus Group Questions	Findings & Discussion
Career Option	Do you think entrepreneurship can be used as a career option for polytechnic students?	8.2.6
Unemployment	Do you think entrepreneurship can be to solve unemployment among the graduates?	8.2.7
Student Tendency/ interest	Do you think business and non-business students are interested in studying entrepreneurship?	8.3.1
Effectiveness	Do you think the current entrepreneurship curriculum is effective?	8.3.2 9.3.2
Content	What is your suggestion about the content of entrepreneurship?	8.4.2 9.3.4
Objective	In your opinion, what is the objective of the entrepreneurship education that should be suggested in polytechnic?	8.4.3 9.3.3
Assesment	What do you think are effective methods for the assessment of entrepreneurship?	8.4.4 9.3.5
Semester offered	Do you think entrepreneurship should be offered in the final semester?	8.5.2 9.3.7
Course/ Programme	What is your opinion about introducing entrepreneurship as a course in our systems?	9.3.6
Pedagogy	Based on your experience, what methods are effective - in teaching entrepreneurship in higher learning institutions?	8.7.2 9.4.3
Monitoring	How about the curriculum monitoring?	8.9.8
Training	What should be the characteristics of lecturers in this subject?	8.8.1 9.4.4
Collaboration/ networking	Does your institution/ company have any collaboration, for example Memorandum of Understanding (MOU) with other institutions/agencies or ministries to encourage entrepreneurship education in your institution?	8.2.3 9.2.6 9.5.2.3
Culture	How the cultural values moderate the tendencies of students towards entrepreneurship?	9.6.2
Barriers	Do you have any obstacles from the administrators when implementing entrepreneurship programme/activities?.	8.2.1
Support	Do you have any support from the administrators when implementing entrepreneurship programme/activities?.	8.2.2

Appendix 2

GET (v2) Test Questionnaires

(<http://get2test.net/>)

**Appendix 3 Distribution of Respondents by Polytechnic,
Department, Semester, Level, Gender and Age**

Variable	Frequency	Percentage
POLYTECHNIC		
Ungku Omar Polytechnic (PUO)	101	20
Port Dickson Polytechnic (PPD)	77	15.2
Sultan AHalim M S Polytechnic (MAS)	142	28.1
Kota Bharu Polytechnic (PKB)	78	15.4
Kota Kinabalu Polytechnic (PKK)	108	21.3
Total	506	100
DEPARTMENT		
Civil Engineering	116	22.9
Electrical Engineering	98	19.4
Commerce	242	47.8
Hospital	50	9.9
Total	506	100
SEMESTER		
1st semester	61	12.1
2nd Semester	25	4.9
3rd Semester	28	5.5
4th Semester	198	39.1
5th Semester	52	10.3
6th Semester	142	28.1
Total	506	100
LEVEL		
Certificate	244	48.2
Diploma	262	51.8
Total	506	100
Gender		
Male	195	38.5
Female	311	61.5
Total	506	100
AGE		
18 years old	8	1.6
19 years old	85	16.8
20 years old	185	36.6
21 years old	122	24.1
22 years old	57	11.3
23 years old	32	6.3
Other age	17	3.4
Total	506	100

Note: Percentage probably not 100percent total due to “round-off errors”

Appendix 4

List of polytechnics

(<http://www.politeknik.edu.my/webjan06/menu/MaklumatPoliteknik/SenaraiPoli.htm>)

APPENDIX 5

Assessment Rubric for National Standards of Practice for Entrepreneurship Education

(http://cbea.homestead.com/files/Entrepreneurs_of_Tomorrow_rubric.pdf)

APPENDIX 6 :

List of Respondents

INTERVIEW		
NO.	RESPONDENTS	CODES
1	DG, DPCCE, MoHE	Mgt1:P1
2	DDG, DPCCE, MoHE	Mgt1:P2
3	Director, CDED DPCCE, MoHE	Mgt1:P3
4	Director, PPD, DPCCE, MoHE	Mgt1:P4
5	Director, PUO	Mgt1:P5
6	Director, PKB	Mgt1:P6
7	Director, PSB	Mgt1:P7
8	Director, Graduate tracking and Alumni Division	Mgt1:P8
9	CDED, DPCCE, MoHE	Mgt1: P9
10	Director, POLIMAS	Mgt:P10
11	INSKEN Director, MECD	Mgt1:M1
12	PSA head of department	Mgt2:P1
13	PUO head of department	Mgt2:P2
14	PKB head of department	Mgt 2: P3
15	PPD head of department	Mgt2:P4
16	MAS head of department	Mgt 2:P5
17	PKC head of department	Mgt 2:P6
18	PKB Coordinator	PKB:CO:L1
19	JUB Ikatan Sepakat (Industry)	Ind:R1
20	EUPE Corporation Bhd (Industry)	Ind:R2
21	Student 1	PUO: S1
22	Student 2	PUO:S2
23	Student 3	PUO: S3
24	Student 4	PPD:S1
25	Student 5	PPD:S2
26	UKM content expert 1	Cexp1:L1
27	UKM content expert 2	Cexp1: L2
28	UUM content expert 1	Cexp1:L3
29	UUM content expert 2	Cexp1:L4
30	UMK content expert	Cexp1: L5
31	UiTM content expert	Cexp1:L6
FOCUS GROUP (FG)		
NO.	RESPONDENTS	CODES
1	Lectures from Commerce Départements (PSA)	PSA:FG:L1, PSA:FG:L2, PSA:FG:L3, PSA:FG:L4, PSA:FG:L5, PSA:FG:L5
2	Lecturer from Commerce Department (PUO)	PUO:FG:L1, PUO:FG:L2, PUO:FG:L3, PUO:FG:L4 PUO:FG:L5, PUO:FG:L6, PUO:FG:L7, PUO:FG:L8
3	Lecturer from Commerce Department (PPD)	PPD: FG:L1, PPD: FG:L2 PPD: FG:L3
4	Lecturer from Commerce Department (POLIMAS)	MAS: FG: L1, MAS: FG: L2, MAS: FG: L3, MAS: FG: L4, MAS: FG: L5
5	Student from Commerce Department (POLI MAS)	MAS: FG: S1, MAS: FG: S2, MAS: FG: S3, MAS: FG: S4, MAS: FG: S5, MAS: FG: S6, MAS: FG: S7, MAS: FG: S8
6	Ex-student from multiple background	EXS: FG:S1, EXS: FG:S2, EXS: FG:S3, EXS: FG:S4, EXS: FG:S5, EXS: FG:S6 EXS: FG:S7, EXS: FG:S8
7	Student from Commerce Department (PKB)	PKB: FG: SG1, PKB: FG: SG2, PKB: FG: SG3, PKB: FG: SG4, PKB: FG: SG5, PKB: FG: SG6 PKB: FG: SG7, PKB: FG: SG8

Note: The respondents name won't be able to be published to protect their privacy

Appendix 7

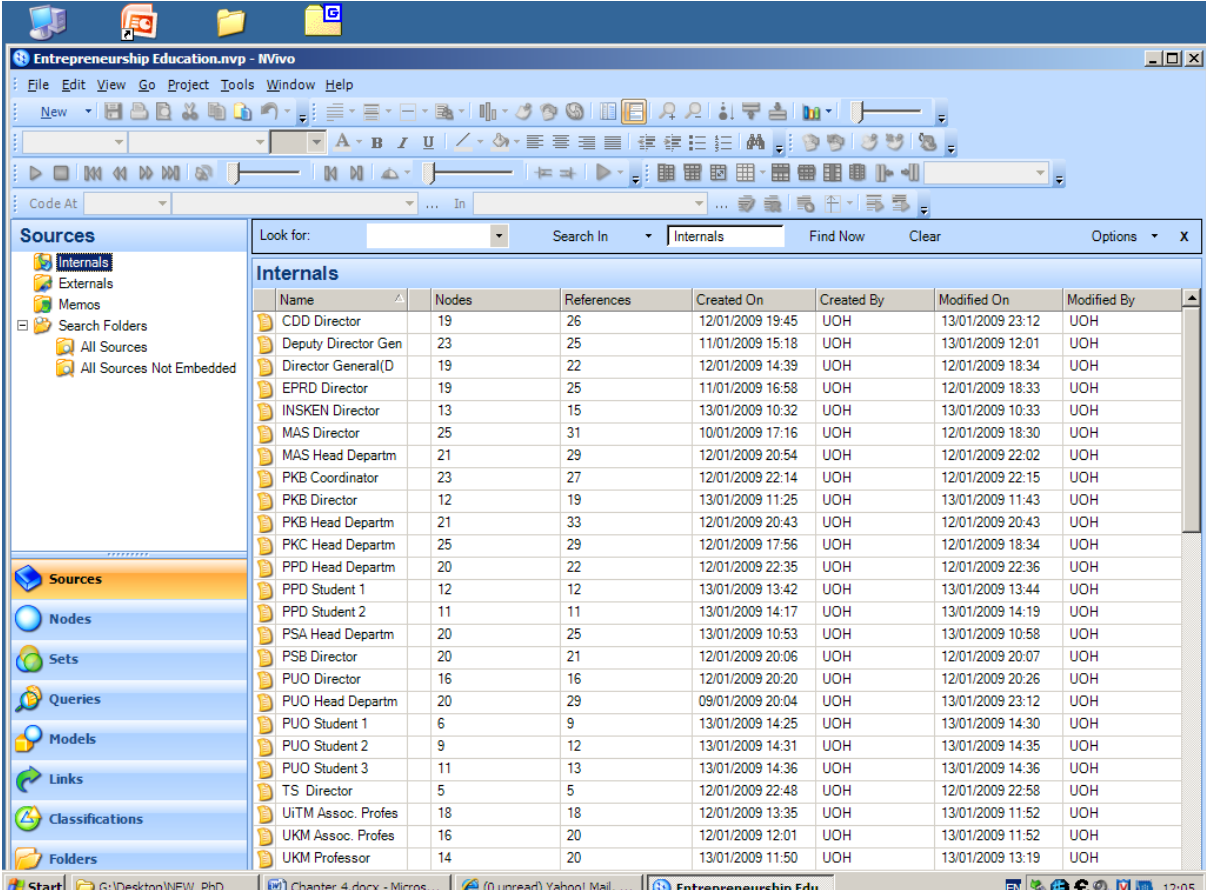
The Example of Nvivo Analysis

This section will explain the using of NVivo software in analysing the qualitative data which gathered from the interview and focus group. It focused to the process of the data keeping and analysing. In a nutshell, it was divided into a few stages.

Stage 1: Source – internal

1. Firstly, a new project namely Entrepreneurship Education were created
2. Then, all transcripts were transferred into Nvivo 8
3. The data was imported under internal icon as shown in the table 1 below.

Table 1: List of respondent



Name	Nodes	References	Created On	Created By	Modified On	Modified By
CDD Director	19	26	12/01/2009 19:45	UOH	13/01/2009 23:12	UOH
Deputy Director Gen	23	25	11/01/2009 15:18	UOH	13/01/2009 12:01	UOH
Director General(D	19	22	12/01/2009 14:39	UOH	12/01/2009 18:34	UOH
EPRD Director	19	25	11/01/2009 16:58	UOH	12/01/2009 18:33	UOH
INSKEN Director	13	15	13/01/2009 10:32	UOH	13/01/2009 10:33	UOH
MAS Director	25	31	10/01/2009 17:16	UOH	12/01/2009 18:30	UOH
MAS Head Departm	21	29	12/01/2009 20:54	UOH	12/01/2009 22:02	UOH
PKB Coordinator	23	27	12/01/2009 22:14	UOH	12/01/2009 22:15	UOH
PKB Director	12	19	13/01/2009 11:25	UOH	13/01/2009 11:43	UOH
PKB Head Departm	21	33	12/01/2009 20:43	UOH	12/01/2009 20:43	UOH
PKC Head Departm	25	29	12/01/2009 17:56	UOH	12/01/2009 18:34	UOH
PPD Head Departm	20	22	12/01/2009 22:35	UOH	12/01/2009 22:36	UOH
PPD Student 1	12	12	13/01/2009 13:42	UOH	13/01/2009 13:44	UOH
PPD Student 2	11	11	13/01/2009 14:17	UOH	13/01/2009 14:19	UOH
PSA Head Departm	20	25	13/01/2009 10:53	UOH	13/01/2009 10:58	UOH
PSB Director	20	21	12/01/2009 20:06	UOH	12/01/2009 20:07	UOH
PUO Director	16	16	12/01/2009 20:20	UOH	12/01/2009 20:26	UOH
PUO Head Departm	20	29	09/01/2009 20:04	UOH	13/01/2009 23:12	UOH
PUO Student 1	6	9	13/01/2009 14:25	UOH	13/01/2009 14:30	UOH
PUO Student 2	9	12	13/01/2009 14:31	UOH	13/01/2009 14:35	UOH
PUO Student 3	11	13	13/01/2009 14:36	UOH	13/01/2009 14:36	UOH
TS Director	5	5	12/01/2009 22:48	UOH	12/01/2009 22:58	UOH
UiTM Assoc. Profes	18	18	12/01/2009 13:35	UOH	13/01/2009 11:52	UOH
UKM Assoc. Profes	16	20	12/01/2009 12:01	UOH	13/01/2009 11:52	UOH
UKM Professor	14	20	13/01/2009 11:50	UOH	13/01/2009 13:19	UOH

Stage 2: Group of respondents

4. In order to enable the data to be analysed easily, all respondents were grouped according to their expertise as shown in the *set* in the table 2 below.
5. The contents expert listed in the right column in Nvivo 8

Table 2: The group of respondents

The screenshot shows the NVivo 8 interface with a search for 'Content Expert U' in the 'Content Expert University' set. The search results are as follows:

Name	In Folder	Created On	Created By	Modified On	Modified By
UiTM Assoc. Profe	Internals	12/01/2009 13:35	UOH	13/01/2009 11:52	UOH
UKM Assoc. Profe	Internals	12/01/2009 12:01	UOH	13/01/2009 11:52	UOH
UKM Professor	Internals	13/01/2009 11:50	UOH	13/01/2009 13:19	UOH
UMK Assoc. Profe	Internals	09/01/2009 12:12	UOH	13/01/2009 11:52	UOH
UUM Assoc. Profe	Internals	12/01/2009 11:42	UOH	13/01/2009 12:00	UOH
UUM Professor	Internals	12/01/2009 13:48	UOH	12/01/2009 18:32	UOH

Stage 3: Develop a themes

6. The process of analysing the data started by reading line by line for each transcript.
7. The themes that has been develop under thematic analysis previously were used to keep the data appropriate to the themes
8. The example of the themes shown in the table 3 below.

Table 3: The example of the theme

The screenshot shows the NVivo software interface for 'Entrepreneurship Education.nvp'. The 'Free Nodes' section is active, displaying a table of nodes. The table has the following columns: Name, Sources, References, Created On, Created By, Modified On, and Modified By. The nodes listed include 'Compulsory, Core', 'Content', 'Course', 'Culture', 'Curriculum Mgt.centralis', 'Curriculum mismatch', 'Curriculum monitoring', 'Effectiveness, Status, Imp', 'Evaluation', 'Finishing school', 'Gender', 'History', 'Innovation unit,Hub', 'Interest', 'Lecturer', 'Model', 'MQF, Standard, Quality', 'Networking', 'Not complusory', 'Objective', 'Pedagogy', 'Policy', 'Problem encountered, O', 'Programme', and 'Race'.

Name	Sources	References	Created On	Created By	Modified On	Modified By
Compulsory, Core	16	19	09/01/2009 12:28	UOH	13/01/2009 14:28	UOH
Content	9	12	09/01/2009 14:47	UOH	13/01/2009 10:38	UOH
Course	17	18	09/01/2009 14:27	UOH	13/01/2009 11:32	UOH
Culture	2	4	12/01/2009 14:06	UOH	13/01/2009 10:35	UOH
Curriculum Mgt.centralis	12	21	09/01/2009 20:15	UOH	13/01/2009 11:07	UOH
Curriculum mismatch	5	6	09/01/2009 14:46	UOH	12/01/2009 20:25	UOH
Curriculum monitoring	10	11	09/01/2009 20:24	UOH	12/01/2009 22:41	UOH
Effectiveness, Status, Imp	19	27	09/01/2009 20:41	UOH	13/01/2009 14:40	UOH
Evaluation	4	4	09/01/2009 14:36	UOH	12/01/2009 20:24	UOH
Finishing school	1	2	11/01/2009 15:46	UOH	11/01/2009 15:50	UOH
Gender	2	2	10/01/2009 17:40	UOH	13/01/2009 13:46	UOH
History	4	4	09/01/2009 14:33	UOH	13/01/2009 10:58	UOH
Innovation unit,Hub	8	14	11/01/2009 15:52	UOH	13/01/2009 11:31	UOH
Interest	5	5	12/01/2009 18:42	UOH	13/01/2009 14:42	UOH
Lecturer	6	7	12/01/2009 11:47	UOH	12/01/2009 22:45	UOH
Model	5	6	09/01/2009 12:24	UOH	12/01/2009 22:17	UOH
MQF, Standard, Quality	6	7	11/01/2009 15:49	UOH	13/01/2009 13:16	UOH
Networking	3	3	12/01/2009 13:45	UOH	13/01/2009 12:12	UOH
Not complusory	4	6	12/01/2009 14:09	UOH	13/01/2009 14:34	UOH
Objective	5	5	12/01/2009 11:48	UOH	12/01/2009 22:17	UOH
Pedagogy	17	17	09/01/2009 12:21	UOH	13/01/2009 14:41	UOH
Policy	3	4	13/01/2009 10:45	UOH	13/01/2009 12:03	UOH
Problem encountered, O	14	18	09/01/2009 14:43	UOH	13/01/2009 13:11	UOH
Programme	4	5	12/01/2009 11:43	UOH	13/01/2009 13:15	UOH
Race	4	5	09/01/2009 20:57	UOH	13/01/2009 10:44	UOH

Stage 4: Analysing of the themes

9. The themes so-called Nodes under NVivo
10. For example, pedagogy. In general 17 quotations were found about this theme. This theme was discussed by respondents as listed in the table 4.

Table 4: The example of the theme; pedagogy

The screenshot shows the NVivo software interface for a project named 'Entrepreneurship Education.nvp'. The 'Free Nodes' table is displayed, showing the following data:

Name	Sources	References	Created On	Created By	Modified On	Modified By
Not compulsory	4	6	12/01/2009 14:09	UOH	13/01/2009 14:34	UOH
Objective	5	5	12/01/2009 11:48	UOH	12/01/2009 22:17	UOH
Pedagogy	17	17	09/01/2009 12:21	UOH	13/01/2009 14:41	UOH
Policy	3	4	13/01/2009 10:45	UOH	13/01/2009 12:03	UOH
Problem encountered	14	18	09/01/2009 14:43	UOH	13/01/2009 13:11	UOH

The 'Pedagogy' node is selected, and a detailed view of its references is shown below:

Name	In Folder	References	Coverage
INSKEN Director	Internals	1	7.84%
MAS Director	Internals	1	1.38%
PKB Coordinator	Internals	1	5.85%
PKC Head Department	Internals	1	4.82%
PPD Student 1	Internals	1	4.28%
PPD Student 2	Internals	1	2.46%
PSB Director	Internals	1	4.11%
PUO Student 1	Internals	1	4.75%
PUO Student 2	Internals	1	18.55%
PUO Student 3	Internals	1	13.82%
TS Director	Internals	1	15.89%
UiTM Assoc. Professor	Internals	1	6.77%
UKM Assoc. Professor	Internals	1	3.84%
UKM Professor	Internals	1	1.72%
UMK Assoc. Professor	Internals	1	1.27%
UUM Assoc. Professor	Internals	1	4.20%
UUM Professor	Internals	1	7.27%

Stage 5: Extract the passage

11. The whole answer were analysed according to the respondents. For each respondents, the percentage of this themes from the whole interview recorded as shown in the table 5 below.
12. The appropriate passage were transform to the thesis as discussed in the chapter 8 and 9.

Table 5: The whole text according to respondent

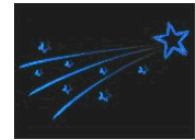
The screenshot displays the NVivo software interface for a project named 'Entrepreneurship Education.nvp'. The 'Free Nodes' search results are as follows:

Name	Sources	References	Created On	Created By	Modified On	Modified By
Not complusory	4	6	12/01/2009 14:09	UOH	13/01/2009 14:34	UOH
Objective	5	5	12/01/2009 11:48	UOH	12/01/2009 22:17	UOH
Pedagogy	17	17	09/01/2009 12:21	UOH	13/01/2009 14:41	UOH
Policy	3	4	13/01/2009 10:45	UOH	13/01/2009 12:03	UOH
Problem encountered	14	18	09/01/2009 14:43	UOH	13/01/2009 13:11	UOH

The selected 'Pedagogy' node is expanded to show a grid of document thumbnails. The 'INSKEN Director' document is highlighted, and its content is displayed in the main window:

<Internals\INSKEN Director> - § 1 reference coded [7.84% Coverage]
 Reference 1 - 7.84% Coverage
 INS:DR : I think both, lecturers teach theories. The theories of entrepreneurship must be taught first. But you also need to give motivational input to the students by inviting successful entrepreneurs to share their ups and downs of a business and how to overcome any obstacles that came about when they were just starting their business so that this input would open up

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Owner's Contact Details:

Dr Sally Caird,
Design Innovation Group,
Department of Design, Development, Environment, and Materials,
Faculty of Maths, Computing and Technology,
The Open University,
Milton Keynes,
MK7 6AA,
England,
United Kingdom.

Tel +44 (0) 1908 6554635
sallycaird@hotmail.com
s.caird@open.ac.uk

General measure of Enterprising Tendency (Version 2)



Take the GET2test online: www.get2test.net

Dr Sally Caird,
Design Innovation Group,
Department of Design, Development, Environment, and Materials,
Faculty of Maths, Computing and Technology,
The Open University,
Milton Keynes
MK7 6AA, UK.

Tel +44 (0) 1908 6554635
sallycaird@hotmail.com
s.caird@open.ac.uk

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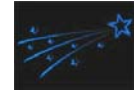


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Get2 Logo: The 'shooting star' logo is intended to represent an individual's enterprising spirit shining brightly creating a trail of benefits. The test is intended to stimulate individuals to reflect on their qualities and aspirations.



Background to the Test

Acknowledgements:

The GET2 is adapted from the original version of the GET developed and tested in Durham University Business School, 1988 by Dr S. Caird and Mr Cliff Johnson.

Worldwide interest in the GET test

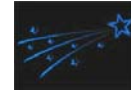
Since the General measure of Enterprising Tendency (GET) test was developed in 1988 Durham University Business School, it has generated a lot of interest amongst academics, working internationally in the areas of entrepreneurship and innovation. In recent years it has generated interest * amongst academics and researchers working in higher educational institutions and universities, for its potential as both an educational and research tool including:

- Centre for Entrepreneurial Management, University of Western Australia;
- Engineering, Federal University of Pelotas, Brazil;
- School of Science, Waterford Institute of Technology, Ireland;
- TSM Business School and Management Consulting of the University of Twente in the Netherlands (for training in Saudi Aramco in Saudi Arabia);
- Bordeaux École De Management, France;
- Office of Social and Economic Trend Analysis (SETA), Rural Development Initiative, Iowa State University;
- Universiti Putra Malaysia, Malaysia;
- Siauliai University, the Faculty of Educology in Educational Researches Scientific Centre Lithuania;
- Tallinn Technical University/ Jacobs University Bremen;
- Mindanao- the Mindanao State University-Iligan Institute of Technology (MSU--IIT), University of Philippines;
- Enterprise and Entrepreneurship Department, Nottingham Trent University;
- Institute for Entrepreneurship, University of Southampton;
- Small Business Research Centre, Kingston University London;
- Open Business School;
- Scottish Enterprise Foundation, University of Stirling;
- University of Newcastle;
- University of Hull;
- Durham University Business School, as well as others.

*Please note that this is not to suggest that these institutions endorse get2test materials.

The first GET test

The original GET test was developed between 1987 and 1988, following a literature review to identify key psychological characteristics of entrepreneurs which were general to other enterprising people. Psychological tests were reviewed and a bank of entrepreneurial descriptive statements was assembled from the literature on entrepreneurs, the psychological tests of key entrepreneurial characteristics and pilot testing with entrepreneurs. The test was



developed for a paper application with little detail on interpretation. Construct validity and reliability was established by testing the measure on occupational groups and finding that entrepreneurs were significantly more enterprising than teachers, nurses, civil servants and clerical workers and lecturers and trainers if a 5% probability of error is accepted in the statistical analysis (Caird, 1991 a&b). A more complex picture of the differences between occupational groups emerged when specific enterprising characteristics were examined, if a 1% probability of error is accepted in the statistical analysis. Entrepreneurs did not score significantly higher than lecturers and trainers on the enterprising characteristics: need for autonomy, creative tendency and calculated risk taking. Teachers, nurses, and civil servants did not have a significantly different creative tendency to entrepreneurs. As expected entrepreneurs do not have the monopoly on enterprising characteristics, but are generally more enterprising than the other occupational groups in the study. Since the development of the GET test it has been used for educational purposes with students, school pupils and participants on enterprise training courses.

Further Developments of GET

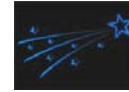
The GET tests was later adapted for use by Training Enterprise Companies (TEC) in the form of a knowledge-based system to contribute to business owner-managers' training. Due to a lack of funding opportunities there was no further work to establish reliability and validity, and the GET test was used mainly in an educational context, to stimulate discussion and personal reflection about enterprise. Over the subsequent 20 years to date, the test has continued to generate world-wide interest. A revised version of the GETv2 test was developed and published in a book on entrepreneurship and innovation by Professor Mazzarol, University of Western Australia who has found it to be one of the best of the tests available. The test is not definitive, however, and would benefit from further development and testing. It should primarily be used as an educational aid for stimulating personal reflection and discussion about enterprise.

Nature of enterprising characteristics

The enterprising person has entrepreneurial characteristics

The description of the enterprising person is drawn from what is known about entrepreneurs; the idea being that the enterprising person shares entrepreneurial characteristics. GETv2 assumes that enterprise is a wider concept that includes more than business owner-managers and entrepreneurs, recognising that there are different types of entrepreneurs, distinguished by their growth orientation, motivation, type of business, involvement with new technology, association with business owner management, and so on. The enterprising person may be an entrepreneur, or an 'intrapreneur', working within organisations, or the person who sets up and leads voluntary projects in the community. An enterprising tendency is defined as the tendency to start up and manage projects.

What is an enterprising person? The description of the enterprising person is drawn from what is known about entrepreneurs; the idea being that the



enterprising person shares entrepreneurial characteristics. Just as there are different types of entrepreneurs, distinguished by their growth orientation, motivation, type of business, involvement with new technology, association with business owner management, and so on, there are different enterprising people. An enterprising tendency is defined as the tendency to start up and manage projects. *The most enterprising people set up projects more frequently, set up more innovative projects and are more growth-oriented which means that they have to be opportunistic and good at utilising resources, including human, technological, physical and organisational resources.*

If a person is highly **enterprising** they have the following qualities:

- Have a strong need for achievement;
- Like to be in charge;
- Seek opportunities and use resources to achieve plans;
- Believe that they possess or can gain the qualities to be successful;
- Are innovative and willing to take a calculated risk.

What is a high need for achievement? The enterprising person is highly motivated, energetic, and has a capacity for hard work. They are busy, driven, dynamic and highly committed to getting things done. Their high motivation levels are characterised by a high need for achievement, manifesting as the desire to lead, shape and compete projects.

If a person has a high **need for achievement** they have the following qualities:

- An orientation towards the future;
- Reliance on their own ability;
- An optimistic rather than a pessimistic outlook;
- A strong task orientation;
- Effective time management;
- Results-oriented with yourself and others;
- Restlessness, driven and energetic;
- Opinionated in defence of your ideas and views;
- Determination to ensure your objectives are met even when difficulties arise;
- Responsible and persistent in pursuit of aims;
- Oriented towards challenging but realistic goals;
- Willingness to work long and hard when necessary to complete tasks.

What is a high need for autonomy? The enterprising person is highly motivated, energetic, likes to lead, shape and do things their way. They are independent, driven, dynamic and may have to be number one or work solo.

If a person has a high **need for autonomy** they have the following qualities:

- Independence, preferring to work alone especially if they cannot be 'top dog';



- Self expressive, feeling a strongly need to do their own thing their way, rather than work on other people's projects;
- Individualistic and unresponsive to group pressure;
- Leadership, preferring to be in charge and disliking taking orders;
- Unconventional, and prepared to stand out as being different to others;
- Opinionated, having to say what they think and make up their own mind about issues;
- Determination, strong willed and stubborn about their interests.

What is creative tendency? The enterprising person is restless with ideas, has an imaginative approach to solving problems, and tends to see life in a different way to others. Their innovative tendency and need for achievement helps them to develop ideas to create new products and processes, for example new technologies, businesses, projects, organisations, comedy and artistic outputs.

If a person has a **creative tendency** they have the following qualities:

- Imaginative, inventive or innovative tendency to come up with new ideas;
- Intuition, being able to synthesis ideas and knowledge, and make good guesses when necessary;
- Change-orientation, preferring novelty, change and challenges with a dislike of being locked into routines;
- Versatile and able to draw on personal resources for projects or problem solving;
- Curious and interested in new ideas.

What is calculated risk-taking? The enterprising person is opportunistic and seeks information and expertise to evaluate if it is worth pursuing the opportunity which will usually involve some risk.

If you scored high as a calculated risk taker this means that you have the following qualities.

If a person is a **calculated risk-taker** they have the following qualities:

- Decisive, being able to act on incomplete information and good at judging when incomplete information is sufficient for action;
- Self-awareness with the ability to accurately assessing their own capability;
- Analytical, being good at evaluating the likely benefits against the likely costs of actions;
- Goal-oriented, setting themselves challenging but attainable goals;
- Effective information management using information to calculate the probability that their actions will be successful.

What is an internal locus of control? The enterprising person has an internal rather than external locus of control which means that they believe you have control over own destiny and make their own 'luck'. This means that they



confidently seek to exert control over life, draw on inner resources and believe that it is down to them if they succeed through their own efforts and hard work.

If a person has an internal **locus of control** they have the following qualities:

- Opportunistic, seeking and taking advantage of opportunities;
- Self-confidence with the belief that they have control over their destiny and make their own luck, rather than being controlled by fate;
- Proactive, taking personal responsibility to navigate the problems that arise to achieve success on their terms;
- Determination and express a strong willed control over life;
- Self belief, equating the results achieved with the effort made.

Frequently Asked Questions

What does it mean to be enterprising?

Understanding of the enterprising person is largely drawn from what is known about entrepreneurs; the idea being that the enterprising person shares entrepreneurial characteristics. Just as there are different types of entrepreneurs, distinguished by their growth orientation, motivation, type of business, involvement with new technology, association with business owner management, and so on, there are different enterprising people. An enterprising tendency is defined as the tendency to start up and manage projects. The most enterprising people set up projects more frequently; set up more innovative projects; and are more growth-oriented; which means that they have to be opportunistic, and good at utilising resources, including human, technological, physical and organisational resources.

Why does the test only allow 'tend to agree' or 'tend to disagree', when I would prefer to answer that I 'sometimes' or 'slightly' agree on occasion?

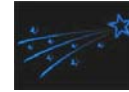
Many people dislike tests that require you to decide if tend to agree or disagree with statements, i.e. a forced choice when you might think that you are somewhere in the middle. You usually know, however, what your tendency is and what you usually do.

Does GET2 predict what I might do in the future?

Although GET2 has proved useful as an aid to discussion and personal reflection about enterprising tendency, predictive validity has not been established. However, GET2 may help you understand what is involved in being enterprising. Personal development and transformation is an open-door if you wish to be enterprising.

My GET2 test results suggest I am enterprising - Should I start a business?

Perhaps you have already started a business, or projects at school or within employment as an intrapreneur, or within your community. Having an enterprising tendency is important but you may still need to develop your skills, knowledge or experience (i.e. your competencies) to be able to do what you really want to do. Several universities, such as the Open University offer free courses online which



may help you to build up your business knowledge and skills, see <http://openlearn.open.ac.uk>. If you have not already started a business venture you might consider setting up and managing a less financially risky, project in your community to build up your experience and expertise. This may help you decide how you want to operate as an enterprising person at this time. Entrepreneur, intrapreneur or 'voluntrepneur' that is the question, although the answer may change throughout your life!

My GET2 test results suggest I am not enterprising - what does this mean?

Sorry that this result seems negative. Organisations and communities need more enterprising people, but it would not be ideal if everyone was enterprising. Some people find enterprising people irritating, and they can be ruthless in their efforts to achieve their goals. Enterprising people do not own all the best personality characteristics, but this test does not assess them. The test is not definitive and it should be used as an educational aid for thinking about enterprise.

If you are not happy with your test results, personal transformation is an open door! If you want to be enterprising you are half-way there! Several universities, such as the Open University offer free courses online which may help you to build up your business knowledge and skills, see <http://openlearn.open.ac.uk>. If you have never set up an enterprise you might consider setting up and managing a small project in your community that is a minimal risk to your time and money, to build up your experience and expertise. This may help you to decide how important it is for you to be enterprising.

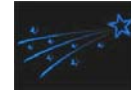
What is the difference between an 'entrepreneur', and 'intrapreneur' and a 'voluntrepneur'?

These are all people with enterprising characteristics, but ones who operate in different contexts. The 'Entrepreneur' starts up and runs their own business, they are business owner/managers but the most innovative and growth-oriented of them are termed entrepreneurs. An 'Intrapreneur' is someone who sets up and runs innovative projects as employees within an existing organisation. A 'Volantrepneur' is someone who sets up and manages projects in the community for social or financial reasons, usually for no direct financial reward.

Is Get2 a Psychometric test? Get2 works in a similar manner to psychometric tests, in that it asks a series of cross-referenced questions aimed at determining certain characteristics. However it has not been developed to the extent of most well-known psychometric tests at this stage.

References

There is a considerable range of published material available concerning the test and its development:



Reports and book chapters

- Caird, S. (1989) Enterprise Competencies. Scottish Enterprise Foundation, Occasional Paper Series No. 65189.
- Caird, S. (1989) An Initial Approach To Defining, Teaching And Assessing Enterprise Competencies. Scottish Enterprise Foundation, Working Paper Series No. 03/89.
- Caird, S. (1992) Testing Enterprising Tendency In Occupational Groups. DUBS Occasional Paper, 9205, ISBN NO 1 85773 017 8 (Reprinted by permission of John Wiley & Sons, Ltd, from the original publication in the British Journal Of Management, Volume 2, pp. 177-186.)
- Caird, S. (2006) General Measure of Enterprising Tendency Version 2 (GET2), Appendix in T. Mazzarol Entrepreneurship and Innovation Australia: Tilde University Press. May.

Journal Articles

- Caird, S. (1990)a "Enterprise Competencies: An Agenda for Research." Journal of European Industrial Training, Vol.14, No.7, pp. 3-9.
- Caird (1990)b "What Does It Mean To Be Enterprising?" British Journal Of Management, Vol. 1, No. 3., pp 137-147.
- Caird, S. (1991)a "Research On The Enterprising Tendency Of Occupational Groups" International Journal Of Small Business, Vol 9, No. 4., pp 75-82.
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Taking the GET2 Test

Enterprise may be expressed by starting your own business, operating as an intrapreneur within an organisation or setting up community ventures. There is much academic debate about the most important characteristics of enterprising people. At the time this test was developed the literature review suggested an emphasis on the following key characteristics:

Motivation: The enterprising person is highly motivated, energetic, and has a capacity for hard work. They are busy, driven, dynamic and highly committed to getting things done. Their high motivation levels are characterised by a high need for achievement and for autonomy, manifesting as the desire to lead, shape and compete projects.

Creative tendency: The enterprising person is restless with ideas, has an imaginative approach to solving problems, and tends to see life in a different way to others. Their innovative tendency and need for achievement helps them to develop ideas to create new products and processes, for example new technologies, businesses, projects, organisations, comedy and artistic outputs.

Calculated risk-taking: The enterprising person is opportunistic and seeks information and expertise to evaluate if it is worth pursuing the opportunity which will usually involve some risk.

Locus of control: The enterprising person has an internal rather than external locus of control which means that they believe you have control over own destiny and make their own 'luck'. This means that they confidently seek to exert control over life, draw on inner resources and believe that it is down to them if they succeed through their own efforts and hard work.

This self assessment test should take you about ten minutes to complete and will give you an idea of your enterprising potential, defined as the tendency to start up and manage projects. There are no right or wrong answers in this test, you are asked to decide if you *tend* to agree or disagree with each statement. For each statement click the answer which best expresses your views. Answer quickly and honestly as this will give the best picture of yourself as you are now.

The test is not definitive and it should be used as an educational aid for thinking about enterprise. If you are not happy with your test results, personal transformation is an open door! If you want to be enterprising you are half-way there.



How the test works

GET2 is a self assessment test that asks you to decide if you tend to agree or disagree with statements that are designed to identify various aspects of your enterprising tendencies. These are indicated by testing whether you are highly motivated, whether you have a high need for achievement, whether you have a high need for autonomy, whether you have a creative tendency, whether you are able to take calculated risks and whether you have an internal locus of control. There is much academic debate about the most important characteristics of enterprising people due to the wide range of the many descriptions of entrepreneurial people. The main problems in the psychological testing of entrepreneurs relate to the varying definitions of the entrepreneur, the numerous characteristics attributed to entrepreneurs and uncertainty about the significance of entrepreneurial characteristics. The literature review undertaken to support this test suggested an emphasis on these key characteristics and the test is built on this.

Decide if you tend to agree or disagree with the statements

Many people dislike tests that require you to decide if *tend* to agree or disagree with statements, i.e. a forced choice, when you might think that you are somewhere in the middle. You usually know, however, what your tendency is and what you might usually do - and this is how you must answer. It is important to realise that there are no right or wrong answers in this test. Overall, it should take you about ten minutes to complete and the resulting report will give you an idea of your enterprising potential. For each statement click the answer which best expresses your views. Answer quickly and honestly since this gives the best picture of yourself as you are now. The test is not definitive and it should be used only as an educational aid for helping you develop you thinking about enterprise. GET2 provides an interpretation of your results. If you are not happy with your test results, personal transformation is an open door! If you want to be enterprising you are half-way there.



The GET2 Test

Instructions: For each of the 54 questions below, please ring the answer that you most closely feel reflects yourself. There is no time limit, so consider each question carefully and respond with candour.

A for 'Tend to Agree', D for 'Tend to Disagree'

The test is not definitive and it should be used as an educational aid for thinking about enterprise. If you are not happy with your test results, personal transformation is an open door! If you want to be enterprising you are half-way there.

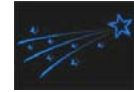
For example look at Statement 1.

If you tend to agree with this then circle the A in box 1 on the response sheet.

If you tend to disagree with the statement, then circle the D in box 1.

If you neither fully agree nor fully disagree then try to decide whether you agree with it more or whether you disagree with it more and circle the A or D.

Place the answer sheet under each page of the booklet in turn with the correct scoring column showing. The answer box numbers (e.g. 1 to 9) should match the numbers of the statements in the booklet.



1. I would not mind routine unchallenging work if the pay and pension prospects were good.

A D

2. I like to test boundaries and get into areas where few have worked before.

A D

3. I tend not to like to stand out or be unconventional.

A D

4. Capable people who fail to become successful have not usually taken chances when they have occurred.

A D

5. I rarely day dream.

A D

6. I find it difficult to switch off from work completely.

A D

7. You are either naturally good at something or you are not, effort makes no difference.

A D

8. Sometimes people find my ideas unusual.

A D

9. I would rather buy a lottery ticket than enter a competition.

A D



10. I like challenges that stretch my abilities and get bored with things I can do quite easily.

A D

11. I would prefer to have a moderate income in a secure job rather than a high income in a job that depended on my performance.

A D

12. At work, I often take over projects and steer them my way without worrying about what other people think.

A D

13. Many of the bad times that people experience are due to bad luck.

A D

14. Sometimes I think about information almost obsessively until I come up with new ideas and solutions.

A D

15. If I am having problems with a task I leave it, forget it and move on to something else.

A D

16. When I make plans I nearly always achieve them.

A D

17. I do not like unexpected changes to my weekly routines.

A D

18. If I wanted to achieve something and the chances of success were 50/50 I would take the risk.

A D



19. I think more of the present and past than of the future.

A D

20. If I had a good idea for making some money, I would be willing to invest my time and borrow money to enable me to do it.

A D

21. I like a lot of guidance to be really clear about what to do in work.

A D

22. People generally get what they deserve.

A D

23. I am wary of new ideas, gadgets and technologies.

A D

24. It is more important to do a job well than to try to please people.

A D

25. I try to accept that things happen to me in life for a reason.

A D

26. Other people think that I'm always making changes and trying out new ideas.

A D

27. If there is a chance of failure I would rather not do it.

A D



28. I get annoyed if people are not on time for meetings.

A D

29. Before I make a decision I like to have all the facts no matter how long it takes.

A D

30. I rarely need or want any assistance and like to put my own stamp on work that I do.

A D

31. You are not likely to be successful unless you are in the right place at the right time.

A D

32. I prefer to be quite good at several things rather than very good at one thing.

A D

33. I would rather work with a person I liked who was not good at the job, rather than work with someone I did not like even if they were good at the job.

A D

34. Being successful is a result of working hard, luck has little to do with it.

A D

35. I prefer doing things in the usual way rather than trying out new methods.

A D

36. Before making an important decision I prefer to weigh up the pro's and con's fairly quickly rather than spending a long time thinking about it.

A D



37. I would rather work on a task as part of a team rather than take responsibility for it myself.

A D

38. I would rather take an opportunity that might lead to even better things than have an experience that I am sure to enjoy.

A D

39. I usually do what is expected of me and follow instructions carefully.

A D

40. For me, getting what I want is a just reward for my efforts.

A D

41. I like to have my life organised so that it runs smoothly and to plan.

A D

42. When I am faced with a challenge I think more about the results of succeeding than the effects of failing.

A D

43. I believe that destiny determines what happens to me in life.

A D

44. I like to spend time with people who have different ways of thinking.

A D

45. I find it difficult to ask for favours from other people.

A D



46. I get up early, stay late or skip meals if I have a deadline for some work that needs to be done.

A D

47. What we are used to is usually better than what is unfamiliar.

A D

48. I get annoyed if superiors or colleagues take credit for my work.

A D

49. People's failures are rarely the result of their poor judgement.

A D

50. Sometimes I have so many ideas that I feel pressurised.

A D

51. I find it easy to relax on holiday and forget about work.

A D

52. I get what I want from life because I work hard to make it happen.

A D

53. It is harder for me to adapt to change than keep to a routine.

A D

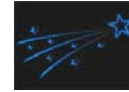
54. I like to start interesting projects even if there is no guaranteed payback for the money or time I have to put in.

A D



GET2 Answer and Scoring Sheet

Row 1	46 A D	37 A D	28 A D	19 A D	10 A D	1 A D
Row 2	47 A D	38 A D	29 A D	20 A D	11 A D	2 A D
Row 3	48 A D	39 A D	30 A D	21 A D	12 A D	3 A D
Row 4	49 A D	40 A D	31 A D	22 A D	13 A D	4 A D
Row 5	50 A D	41 A D	32 A D	23 A D	14 A D	5 A D
Row 6	51 A D	42 A D	33 A D	24 A D	15 A D	6 A D
Row 7	52 A D	43 A D	34 A D	25 A D	16 A D	7 A D
Row 8	53 A D	44 A D	35 A D	26 A D	17 A D	8 A D
Row 9	54 A D	45 A D	36 A D	27 A D	18 A D	9 A D



Scoring the GET2 Test

The Get2 test measures enterprising tendency by measuring five entrepreneurial attributes as follows:

1. Need for achievement – This is measured in rows 1 and row 6 of the scoring sheet, i.e. Questions 1,10,19,28,37,46, 6,15,24,33,42,51
2. Need for Autonomy – This is measured in row 3, i.e. Questions 3,12, 21,30,39,48
3. Creative Tendency – This is measured in rows 5 and 8, i.e. Questions 5, 14,23,32,41,50,8,17,26,35,44,53
4. Calculated Risk taking- This is measured in rows 2 and 9, i.e. Questions 2,11,20,29,38,47, 9,18,27,36,45,54
5. Locus of control – This is measured in rows 4 and 7, i.e. Questions 4,13,22,31,40,49,7,16,25,34,43,52

Even numbers on the scoring sheet represent positive entrepreneurial statements.

Odd numbers on the scoring sheet represent negative entrepreneurial statements.

Note down score for each entrepreneurial attribute as well as your total score and use the interpretation provided to consider your score.

Interpretation

General Enterprising Tendency (GET)

The maximum score (representing General Enterprising Tendency) is 54

44-54 - This score means that you are very enterprising (High)

27-43 - This score means that you have some enterprising qualities (Medium)

0-26 – This score means that you are probably happiest working with guidance from superiors (Low)

GET2 Scores

High GET2 score 44-54

Your GET2 score suggests that your enterprising tendency is high. This means that you have a tendency to start up and manage projects; this could be your own business venture, within your employing organisation or your community. You may recognise the following qualities in yourself:

- You like to be in charge;
- You will seek opportunities and use resources to achieve your plans;
- You believe that you possess or can gain the qualities to be successful;
- You are innovative and willing to take a calculated risk to achieve your goals successfully.



The most enterprising people set up projects more frequently, set up more innovative projects and are more growth-oriented which means that they are opportunistic and good at utilising resources, including human, technological, physical and organisational resources.

Medium GET2 score 27-43

You are likely to have strengths in some of the enterprising characteristics and may be enterprising in some contexts. At this time you probably are unlikely to set up an innovative growth-oriented global business, and may be able to express your enterprise either within employment as an intrapreneur, or in your leisure time through voluntary community projects.

Low GET2 score 0-26

The GET2 results suggest that you are not highly enterprising in your present activities. This suggests that you would probably prefer to work in employment. Perhaps you prefer to support enterprise rather than take a lead. Enterprises need people to support and work on the implementation of plans so that goals are met. This test does not assess personal strengths other than enterprising characteristics. The test, however, is not definitive and should be used as an educational aid for stimulating personal reflection. If you are not happy with your test results, personal transformation is an open door! If you want to be enterprising you are half-way there!

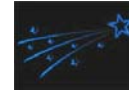
Entrepreneurial Characteristics

Entrepreneurial Qualities: Need for Achievement

(Maximum Score is 12, high score is 10-12, low is 0-6)

Your need for achievement is high. This means that you may have the following qualities:

- An orientation towards the future;
- Reliance on your own ability;
- An optimistic rather than a pessimistic outlook;
- A strong task orientation;
- Effective time management;
- Results-oriented with yourself and others;
- Restlessness, driven and energetic;
- Opinionated in defence of your ideas and views;
- Determination to ensure your objectives are met even when difficulties arise;
- Responsible and persistent in pursuit of aims;
- Oriented towards challenging but realistic goals;
- Willingness to work long and hard when necessary to complete tasks.



You may need to be careful about maintaining your work life balance and in particular taking care of your health and important relationships in your life.

If your **need for achievement is medium**:

Your score for your need for achievement was medium. You probably wish to consider 'tried and tested' enterprising ideas that fit in with your lifestyle.

If your **Need for achievement is low**

Achievement may not be one of your high priorities. Perhaps setting up and running an enterprise would be too much hard work and commitment. Perhaps you prefer to take life at a more even pace.

Entrepreneurial Qualities: Need for Autonomy/Independence

(Maximum Score is 6, high score is 4-6, low is 0-2)

Your need for autonomy (or independence) is high. This means that you may have the following qualities:

- Independence, preferring to work alone especially if you cannot be top dog
- Self expressive, feeling a strongly need to do your own thing your way, rather than work on other people's projects
- Individualistic and unresponsive to group pressure
- Leadership, preferring to be in charge and disliking taking orders
- Unconventional, and prepared to stand out as being different to others
- Opinionated, having to say what you think and make up their own mind about issues
- Determination, strong willed and stubborn about your interests

This score suggests that you like to take charge of projects that you are involved with, and you may not like working for other people. You may need to work at developing good relationship skills with clients, employees, suppliers and authorities since this is important even in very small business or enterprises.

If your **Need for Autonomy is medium**

You may be happy to work as an intrapraneur as a valuable member of an organisational team. If you start your own enterprise, you may need to cultivate stronger independent leadership qualities. Starting a business is not the only option for you. You would be probably equally happy to work as an employee as part of an organisational team or on your own projects.

If your **Need for Autonomy is low**



You probably prefer to be advised about managing your work and would not enjoy the responsibility of taking charge of an enterprise.

Entrepreneurial Qualities: Creative Tendency

(Maximum Score is 12, high score is 10-12, low is 0-6)

Your creative tendency is high. This means that you may have the following qualities:

- Imaginative, inventive or innovative tendency to come up with new ideas
- Intuitive, being able to synthesis ideas and knowledge, and make good guesses when necessary
- Change-orientated, preferring novelty, change and challenges with a dislike of being locked into routines
- Versatile and able to draw on personal resources for projects or problem solving
- Curious and interested in new ideas

This score suggests that you are a person with strong creative tendencies that you may be able to express through artistic, innovative or inventive activities. While not all creative people have to be enterprising, it is nonetheless a characteristic of the most enterprising.

If your *creative tendency* is *medium*

You probably wish to consider tried and tested enterprising ideas that are more straightforward to implement and fit in with your lifestyle.

If your *Creative Tendency* is *low*

You would probably look to others for entrepreneurial ideas but are probably content with proven, traditional approaches to business or enterprise.

Calculated Risk taking

(Maximum Score is 12, high score is 10-12, low is 0-6)

You scored high for calculated risk-taking. This means that you may have the following qualities:

- Decisive, being able to act on incomplete information and good at judging when incomplete information is sufficient for action
- Self-awareness with the ability to accurately assessing your capabilities



- Analytical, being good at evaluating the likely benefits against the likely costs of actions
- Goal-oriented, setting yourself challenging but attainable goals
- Effective information management using information to calculate the probability that your actions will be successful

You are very good at sizing up opportunities and filtering information to help you take calculated risks.

If your **Calculated Risk taking** score is **medium**

You would probably be happiest with tried and tested enterprise ideas, less risky enterprising ideas, or business ideas where a partner takes the risks (even if that might include sacrificing some of the potential rewards).

If your **Calculated Risk taking** score is **low**

You are not happy about taking on any risk and perhaps you have too many responsibilities or too few personal resources to allow you to feel comfortable about taking financial or business risks.

Entrepreneurial Qualities: Internal Locus of Control

(Maximum Score is 12, high score is 10-12, low is 0-6)

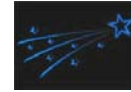
You scored highly in having an internal locus of control. This means that you may have the following qualities:

- Opportunistic, seeking and taking advantage of opportunities
- Self-confidence with the belief that you have control over your destiny and you make your own luck, rather than being controlled by fate
- Proactive, taking personal responsibility to navigate problems that arise to achieve success on your terms
- Determination and express a strong willed control over life
- Self belief, equating the results achieved with the effort you make.

Having an internal locus of control means that you confidently seek to exert control over your life, drawing on your inner resources rather than depending on others. You strongly believe that your personal qualities and efforts will determine your success in life.

If your **Locus of control** score is **not strongly internal** then

Although you have some entrepreneurial qualities, if you wish to start a business you may need to develop your self confidence and enterprising skills to make a success of the venture. You may need to exert greater control over the development of your ideas. Self confidence could be strengthened by developing specific business or project management skills in areas that you feel could be



improved. Without greater self confidence you may over-rely on others, such as partners or clients, and this could engender greater business risk.

If your **Locus of control** score is **low (An External Locus of control)**

You may have experienced some knocks to your self confidence which lead you to doubt that your personal qualities and efforts will help you to achieve your aims in life. You believe that luck and fate will determine what happens to you in life, and determination and hard work will not make much difference.

Combined interpretations of GET2 measures

If your **Need for achievement** is **high** and your **GET score** is **high** then

Your results suggest you are both highly enterprising and that you have a high need for achievement, suggesting that you are interested in considering business or enterprising ideas with potential for growth, expansion in global as well as local context.

If your **Need for achievement** is **high** and your **GET score** is **low** then

Your results suggest you are less enterprising but that you have a high need for achievement, suggesting that you may prefer a high achieving job as a manager within an established organisational system rather than setting up and running your own business.

If your **Need for achievement** is **low or medium** and your **GET score** is **high** then

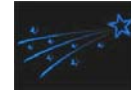
Your results suggest you are highly enterprising, but that your need for achievement is less high. This suggests that you may be happy with self employment or setting up a small business or enterprise rather than putting a lot of effort into business growth or global expansion.

If your **Need for Autonomy** is **high** and your **GET score** is **low** then

Your results suggest you are less enterprising but that your need for autonomy (or independence) is high, suggesting that you may be a bit of a loner or have a touch of the rebel, which makes you better suited to self-employment rather than employment. You may need to develop your other entrepreneurial characteristics if you are interested in setting up a successful enterprise.

If your **Need for Autonomy** is **low or medium** and your **GET score** is **high** then

Your results suggest you are highly enterprising, and your need for autonomy (or independence) is low or medium. This suggests that you may be happy to work as an intrapreneur or as a valuable member of an organisational team. If you



start your own enterprise you may need to cultivate stronger independent leadership qualities.

If your **Creative Tendency** is **high** and your **GET score** is **high** then

Your results suggest you are highly enterprising, and that you have high creative tendencies. This suggests that you would be innovative about your enterprise, that is you would probably create new products, processes or services. You may need to be careful about over-extending yourself and following up too many opportunities. It may be important to develop skills in evaluating ideas to assist with decisions about which ideas to prioritise for investment and development.

If your **Creative Tendency** is **high** and your **GET score** is **medium or low** then

Your results suggest you are not highly enterprising but that you have high creative tendencies. So although you may not be inclined to start your own business, you might not be happy if there is no opportunity in your life and work to express your creativity. This result suggests that although you are inventive you may have problems bringing your ideas to fruition and may even have had experiences with other people plagiarising your ideas. It may be that business is not the only or most appropriate vehicle for your creative expression and you may consider other scientific, artistic or technical occupations.

If your **Creative Tendency** is **low or medium** and your **GET score** is **high** then

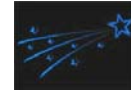
Your results suggest you are highly enterprising, but that you do not have high creative tendencies. This suggests you would probably be happiest with 'tried and tested enterprise ideas', such as plumbing services, dentistry, hairdressing etc. If you wished to establish a more innovative enterprise then you might like to consider developing your own latent creative skills. You might be one of those busy people who do not think about your creative ideas because you are so busy getting things done! If so more relaxation may be important to allow your creative ideas to emerge from unconsciousness, Alternatively you could seek an innovative partner in your enterprise.

If your **Calculated Risk taking** score is **high** and your **GET score** is **low** then

Your results suggest you are less enterprising but that you have a high tendency for calculated risk taking. This suggests that you may be a bit of a thrill seeker or even a gambler, and enjoy managing uncertainty. If you wish to set up and run a business successfully then you may need to develop additional skills to help you to set up and run a business or enterprise successfully.

If your **Calculated Risk taking** score is **low or medium** and your **GET score** is **high** then

You probably enjoy being involved with enterprising projects, but you would not be happy taking big risks, especially financial risks, or pursuing every opportunity



that you spot, although you may feel like kicking yourself sometimes when you see others successfully pursuing the opportunities that you blocked out. You are probably most secure working on well-trying enterprise ideas with fairly clear directions, although it might be worthwhile, now and again, experiencing the thrill of grasping a more risky opportunity.

If your **Locus of control** score is **high (Internal)** and your **GET score** is **low** then

You may be satisfied in a managerial role rather than starting up and running your own business. Perhaps you have already had a business, been there and moved on. You are probably quite satisfied with the way you manage your life. You may believe that you could set up a successful enterprise if you wanted to, but your lifestyle is probably quite comfortable as it is.

If your **Locus of control** score is **low or medium (External)** and your **GET score** is **high** then

You may need to develop your self-confidence and exert greater control over the development of your ideas. Self confidence could be strengthened by developing specific enterprising skills in areas that you feel could be improved. Without greater self-confidence you may over-rely on others, such as partners or clients, and this could engender greater risk.

Further Information

For further information regarding the GET2 test, its implementation and its interpretation, please contact me:

Dr Sally Caird,
Design Innovation Group,
Department of Design, Development, Environment, and Materials,
Faculty of Maths, Computing and Technology,
The Open University,
Milton Keynes
MK7 6AA, UK.

Tel +44 (0) 1908 6554635
sallycaird@hotmail.com
s.caird@open.ac.uk

The GET2 Test may also be taken online at <http://www.get2test.net>.

SENARAI POLITEKNIK KEMENTERIAN PENGAJIAN TINGGI MALAYSIA

21. Politeknik Balik Pulau



Politeknik Ungku Omar

Jalan Raja Musa Mahadi,
31400 Ipoh,
Perak.

Pegawai HEP(PD):
En. Yahaya bin Haji Zakaria
Tel : 05-5457622
Fax: 05-5471162



Politeknik Sultan Haji Ahmad Shah

Semambu,
25350 Kuantan,
Pahang.

Pegawai HEP(PD):
En. Ramlee bin Jantan
Tel : 09-5655300
Fax: 09-5663104



Politeknik Sultan Abdul Halim Muadzam Shah

Bandar Darulaman,
06000 Jitra,
Kedah.

Pegawai HEP(PD):
En. Shahril bin Dahar
Tel : 04-9146100
> Fax: 04-9174232



Politeknik Kota Bharu

Km. 24, Kok Lanas,
16450 Ketereh,
Kelantan.

Pegawai HEP(PD):
Tn. Hj. Nik Mazlan bin Nik Husain
Tel : 09-7889344
Fax: 09-7888739



Politeknik Kuching Sarawak

Km. 22, Jalan Matang,
93050 Kuching,
Sarawak

Pegawai HEP(PD):
En. Sali Suhaili bin Bohari ABS
Tel : 082-428796
> Fax: 082-428023



Politeknik Port Dickson

Km. 14, Jalan Pantai,
71050 Si Rusa,
Negeri Sembilan Darul Khusus.

Pegawai HEP(PD):
> En. Md Kasim bin Jaafar
> Tel: 06-6622036
Fax: 06-6622026



Politeknik Kota Kinabalu

Jalan Politeknik, Menggatal
88450 Kota Kinabalu,
Sabah.

Pegawai HEP(PD):
Jalani Bin Simidi @ Samidi
Tel : 088-499980
Fax: 088-499960



Politeknik Sultan Salahuddin Abdul Aziz Shah

Persiaran Usahawan, Seksyen U1,
40150 Shah Alam,
Selangor.

Pegawai HEP(PD):
En. Nazri bin Idris
Tel : 03-51634000
Fax: 03-55691903



Politeknik Johor Bahru

Km. 10, Jalan Kong Kong,
81700 Pasir Gudang,
Johor Darul Takzim.

Pegawai HEP(PD):
En. Haini bin Harun
Tel : 07-2612488
Fax: 07-2612963



Politeknik Seberang Perai

Jalan Permatang Pauh,
13500 Permatang Pauh,
Pulau Pinang.

Pegawai HEP(PD):
> Tn. Hj. Abdul Rahim bin Othman
> Tel : 04-5383322
Fax: 04-5389266



Politeknik Kota, Melaka

No. 2, Jalan PPM 10,
Plaza Pandan Malim,
Balai Panjang,
75250 Melaka.

Pegawai HEP(PD):
En. Abdul Razak bin Sabtu
Tel : 06-3376000
Fax: 06-3376007



Politeknik Sultan Mizan Zainal Abidin

Km. 8, Jalan Paka,
23000 Dungun,
Terengganu.

Pegawai HEP(PD):
En. Abu Bakar Bin Zakaria
Tel : 09-8400800
Fax: 09-8458781

Politeknik Sultan Azlan Shah

Behrang Stesen,
35950 Behrang,
Perak

Pegawai HEP(PD):
En. Aziz Zuddin bin Othman
Tel : 05-4544431
Fax: 05-4544993

Politeknik Sultan Idris Shah

Sungai Lang,
45100 Sungai Air Tawar,
Selangor

Pegawai HEP(PD):
En. Shahpri bin Sarpany
Tel : 03-32136666
Fax: 03-32138741

Politeknik Muadzam Shah

Jln Istana Pelanti,
27600 Muadzam Shah,
Pahang

Pegawai HEP(PD):
Tn. Hj. Badrul Hakimi bin Mohd Bastamam
Tel : 09-4501021
Fax: 09-4524064

Politeknik Balik Pulau

D/A Politeknik Seberang Perai.
Jalan Permatang Pauh,
13500 Permatang Pauh,
Pulau Pinang.

Pegawai HEP(PD):
En. Irwandih bin Mat Jailli
Tel : 04-5305959
Fax: 04-5301119



Politeknik Kota, Kuala Terengganu

Jalan Sultan Ismail,
20200 Kuala Terengganu
Terengganu.

Pegawai HEP(PD):
> En. Mohd Aripin Bin Yong
Tel : 09-6204100
Fax: 06-6204102



Politeknik Merlimau

Jalan Jasin,
77300 Merlimau,
Melaka.

Pegawai HEP(PD):
> Tn. Hj. Mohd Din bin Md.Nor
> Tel : 06-2636687
Fax: 06-2636678

Politeknik Tuanku Sultanah Bahiyah

Kulim Hi-Tech Park,
09000 Kulim,
Kedah.

Pegawai HEP(PD):
> Tn. Hj. Wan Mohd Fauzy bin Wan Mohd Akib
> Tel : 04-4033333
Fax: 04-4033033

Politeknik Tuanku Syed Sirajuddin

Ulu Pauh,
02600 Arau
Perlis

Pegawai HEP(PD):
> En. Dzulkarnain bin Musa
> Tel : 04-9886200
Fax: 04-9886300

Politeknik Mukah

Km. 7.5, Jalan Oya Mukah
96400 Mukah
Sarawak

Pegawai HEP(PD):
En. Zaidi bin Basli
Tel : 084-874001
Fax: 084-874005

Politeknik Jeli Kelantan

D/A Politeknik Kota Bharu
Km. 24, Kok Lanang,
16450 Ketereh
Kelantan

Pegawai HEP(PD):
Pn. Siti Noor binti Abdullah
Tel : 09-7889344
Fax: 09-7888739



Politeknik Nilai N. Sembilan

Lot A11, Kompleks Perniagaan Kuarters KLIA,
71800 Nilai,
Negeri Sembilan.

Pegawai HEP(PD):
Ustaz Mohd Azli bin Adnan
Tel : 019-2852464

Politeknik Banting Selangor

Politeknik Banting,
d/a Kolej Komuniti Kuala Langgat,
Jalan Sultan Sulaiman,
42700 Banting,
Selangor.

Pegawai HEP(PD):
En. Mohd Helmi bin Ab. Halim
Tel : 03-31202030
Fax: 03-31202080



Assessment Rubric

For

National Standards of Practice for Entrepreneurship Education

Facilitate student **motivation**

Enhance **opportunities** for work and life

Increase **invention** and **innovation**

Strengthen **economies**

The National Standards of Practice are intended to provide encouragement and ideas to facilitate entrepreneurship education with the structure to assure a consistent and high-quality result. This assessment rubric allows program developers and deliverers to examine their status in relationship to the National Standards of Practice.

The **National Standards of Practice** complement the **National Content Standards** for Entrepreneurship Education, which provide additional detail with individual learning outcomes. The 403 performance indicators in the National Content Standards allow program deliverers to connect with the essentials that practicing entrepreneurs indicate they must know and be able to do in order to have success as an entrepreneur.

Concepts that Facilitate Entrepreneurial Thinking

The Big Picture

- Allow students to recognize opportunities to create and build something from practically nothing.
- Enable students to realize that they have self-employment options as well as those involving working for others.
- Encourage big dreams, build skills, and enable students to catch the vision, see the opportunity, and

Review the concepts and evaluate (Gap Analysis) against the evidence of delivery and determine if your situation is meeting the National standards of practice. If an area is not ok move to the last page and identify the strategies needed for improvement.

Concepts	Evidence of Delivery	OK
<p>Comprehensive Curriculum Delivery Provide a curriculum that is organized around the five entrepreneurial processes: Discovery, Concept Development, Resourcing, Actualization, and Harvesting. Offer sufficient depth to ensure successful entrepreneurial performance as identified in the National Content Standards for Entrepreneurship Education.</p>	<p>The National Content Standards have been used in the development of the curriculum used in delivery of instruction.</p> <p>Instruction addresses sufficient breadth of the 403 performance indicators to provide competence for potential and practicing entrepreneurs.</p>	
	Evidence of Delivery	OK
<p>Basic Academic Skills Use entrepreneurship as the real-world context to demonstrate the importance of academic skills, including math, science, communications, digital skills, technology, geography, history, and more.</p>	<p>Problem based learning uses entrepreneurial-focused, market-based scenarios in academic and career technical courses to acquaint the students with how these skills will be used in the market/work place.</p>	
	Evidence of Delivery	OK
<p>Economic Concepts Portray, in a realistic way, the relationship between risk and reward in the entrepreneurial process as it operates in the free-enterprise system. Provide opportunities to understand basic economic concepts such as savings, interest, supply and demand, and more.</p>	<p>Practical applications of economic concepts allow students to see the opportunity for rewards when the free enterprise systems works in unrestrained manners.</p>	
	Evidence of Delivery	OK
<p>Personal Interest and Investment Provide opportunities for students to start and operate enterprises of an appropriate size and scope, in which they are personally invested, and in a manner that is significant to them.</p>	<p>Students use resources they possess or orchestrate to gain experience in risking their personal resources in projects that matter to them in order to gain realistic experience.</p>	
	Evidence of Delivery	OK
<p>Risk Management Reinforce the concept that successful entrepreneurs take calculated risks based on sound research and relevant information, including economic analysis.</p>	<p>Plans for businesses projected by students indicate that the risks have been researched and appropriate analysis has been conducted so that surprise risks are minimized.</p>	
	Evidence of Delivery	OK
<p>Business Planning Require students to develop a comprehensive business plan that addresses its financial, marketing, and operational aspects.</p>	<p>Age-appropriate business planning assignments utilized a format or software that ensures comprehensive plans that are acceptable to resource partners in the community.</p>	

	Evidence of Delivery	OK
<p>Career Guidance</p> <p>Generate an understanding of the many career fields that offer entrepreneurial opportunities. Opportunities abound for entrepreneurial thinkers in all sectors and industries, whether starting or managing a business, or as employees offering new ideas and approaches.</p>	<p>Experiential curriculum allows students to examine career opportunities in the career field of the student's personal interest. Experiences allow for consideration of the range of entrepreneurial contributions in all business ventures.</p>	
	Evidence of Delivery	OK
<p>Ethical Behavior</p> <p>Emphasize the need to operate enterprises and organizations in a legal, ethical, and socially and environmentally responsible manner.</p>	<p>Opportunities to discuss and demonstrate ethical behavior in a range of business situations are provided to the students.</p>	
	Evidence of Delivery	OK
<p>Entrepreneurship as an Economic Force</p> <p>Demonstrate the place for entrepreneurship in school-to-career transition, community service, and economic development strategies, as students become involved in for-profit, not-for-profit, and public sectors of the economy.</p>	<p>Students are given experiences that allow them to see that they can contribute to the economy, just as effectively as an entrepreneur when they create a job for themselves, and even more than anyone who takes a job from an existing company.</p>	



Methods for Delivering Entrepreneurship Education

The Big Picture Instructors should act as facilitators and coaches, rather than providers of knowledge.

- Apply experiential and problem-based learning approaches.
- Use diverse strategies that encourage the entrepreneurial spirit to emerge.

Review the concepts and evaluate (Gap Analysis) against the evidence of delivery and determine if your situation is meeting the National standards of practice. If an area is not ok move to the last page and identify the strategies needed for improvement.

Concepts	Evidence of Delivery	OK
<p>Facilitating and Coaching Instructors should position themselves, not as the providers of knowledge, but as facilitators of learning, whose role is to build knowledge in their students; facilitate the discovery process and provide coaching to guide students to solutions; and allow them to choose their own paths and to learn from their own mistakes and successes.</p>	<p>Instructor(s) manage(s) student learning in ways that allows individual students to focus on their needs and to advance their knowledge base and build competence needed for their individual success.</p> <p>Instructional plans provide evidence of individual student planning.</p>	
Concepts	Evidence of Delivery	OK
<p>Experiential Learning Entrepreneurs are not born; rather, they become through the experiences of their lives. Provide hands-on learning opportunities where students actively learn by doing. Personalize the learning experience for each student whenever possible to build emotional equity in the learning process and ownership of the outcome.</p>	<p>Instructor(s) provide experiential learning experiences that allow students to learn through their own personalized learning plan and demonstrate gained competence through their individual performances.</p>	
Concepts	Evidence of Delivery	OK
<p>Problem-Based Learning Entrepreneurial thinkers are good problem-solvers. Curriculum should provide the opportunity to tackle both simple and complex problems. Activities should include challenges with and without clear solutions.</p>	<p>Instructor(s) organize student learning activities for students to look for alternative options and work their way through simple and complex problems in order to seek solutions to market/work place problems.</p>	
Concepts	Evidence of Delivery	OK
<p>Students as Leaders Wherever possible, students should be provided the responsibility to lead their own inquiry-based learning opportunities. Such student-directed activities may include planning, creating, and operating businesses, field trips, negotiation exercises, and group problem-solving.</p>	<p>Instructor(s) organize their programs so that students may direct themselves through inquiry-based learning activities. Planning, creating and operating businesses are encouraged as an essential learning strategy.</p>	
Concepts	Evidence of Delivery	OK
<p>People in the Community Involve individuals from the surrounding community to serve as guest speakers, mentors, advisors, and role models.</p>	<p>Community volunteers are utilized in a variety of ways to guide, advise and inform students.</p>	
Concepts	Evidence of Delivery	OK
<p>Variety of Methods Use a variety of methods to facilitate the learning process with a focus on higher-level learning, including books, courses, seminars, research, group learning, role-playing, guest speakers, mentors, advisors, role models, field trips, computer-based training, and more.</p>	<p>Methods used to equip students for the entrepreneurial challenges ahead are focused on higher level learning strategies that challenge students to equip their minds appropriately.</p>	

Concepts	Evidence of Delivery	OK
<p>Lifelong Learning Model for Entrepreneurship Education</p> <p>Entrepreneurship is a lifelong learning process that has at least five distinct stages of development, as outlined in the chart below. Entrepreneurial skills can be fostered throughout all levels of education from elementary to adult. Learning outcomes are adjusted for each level as students mature and build on previous knowledge.</p>	<p>Assessments are made of the students to determine the level of competence possessed.</p> <p>Program strategies are leveled at the appropriate stage of the life long learning model depending upon the needs of the students.</p>	

The Life Long Learning Model



Accountability Encourages Success

The Big Picture

- Align entrepreneurship education efforts with the objectives of your organization and focus on providing positive benefits for all stakeholders.
- Use qualified personnel within a supportive and rewarding environment.
- Apply quality standards, frequent evaluation, and continuous improvement.

Review the concepts and evaluate (Gap Analysis) against the evidence of delivery and determine if your situation is meeting the National standards of practice. If an area is not ok move to the last page and identify the strategies needed for improvement.

Concepts	Evidence of Delivery	OK
Organization Vision, Mission, and Goals Entrepreneurship education can be implemented in all types of organizations, from public schools, community-based organizations, economic development incubators, community colleges, universities, and more. Seek to align entrepreneurship education efforts with your organization's underlying values and direction.	Entrepreneurship program is aligned with the values and direction of the sponsoring organization. A published vision, mission and goals statement guides the entrepreneurship program.	
Concepts	Evidence of Delivery	OK
Qualified Personnel in a Supportive Environment Ensure that individuals designing and delivering entrepreneurship education programs are appropriately qualified with sufficient credentials and/or experience. Support them with the resources, training, guidance, and encouragement needed to maximize success.	Instructors and counselors are qualified through experience and education as evidenced through resume and education credentials. Support, resources, and encouragement are provided to optimize performance of the instructional leadership and student success.	
Concepts	Evidence of Delivery	OK
Quality Standards Align with available content standards to provide a curriculum framework that is both thorough and focuses on the right learning outcomes.	Program developers and instructors have aligned the entrepreneurship curriculum with the essential core academic content standards in order to focus on essential competencies for advancing in the education environment and the workplace.	
Concepts	Evidence of Delivery	OK
Positive Benefits Establish measurable outcomes that focus on providing value for all stakeholders.	Measurable outcomes are identified and accessed with the assistance of stakeholders so that the outcomes delivered have value to the program participants and the community.	
Concepts	Evidence of Delivery	OK
Continuous Improvement Document, reflect, measure, and evaluate programs and learning outcomes. Practice continuous improvement and frequently measure results and impact.	A continuous improvement process is followed that allows for planning, implementing, studying the results and acting on the results in appropriate manners to adjust in order to optimize student performance.	
Concepts	Evidence of Delivery	OK
Diversity in Program Leadership Seek to include people of all backgrounds in the program, as instructors, leaders, and mentors to enhance and expand program design and delivery.	Instructors, leaders, and mentors represent a diverse array of the community population who model for the student's success as entrepreneurs.	
Concepts	Evidence of Delivery	OK
Social Entrepreneurship Be the model of responsible entrepreneurship that you wish to instill in students, by acting ethically as an initiator of change within your institution or community	Changes initiated by the program/school demonstrate entrepreneurial thinking and result in value added to the community it serves.	

National Standards of Practice for Entrepreneurship Education Assessment Rubric Assessment Summary

The National Standards of Practice are intended to provide encouragement and ideas to facilitate entrepreneurship education with the structure to assure a consistent and high-quality result. This assessment rubric allows program developers and deliverers to examine their status in relationship to the National Standards of Practice.

Review of our program/courses using the rubric found the following gaps from acceptable practice and therefore opportunities for improvement:

Concepts That Facilitate Entrepreneurial Thinking	Evidence Lacking	Improvement Strategies to be Completed
Methods For Delivering Entrepreneurship Education	Evidence Lacking	Improvement Strategies to be Completed
Accountability Encourages Success	Evidence Lacking	Improvement Strategies to be Completed



<http://www.entre-ed.org>

We encourage you to download from our website:

Copies of the brochure explaining the
Standards of Practice for Entrepreneurship Education.
Members may request multiple copies at no charge, others may order for
\$.60 per brochure plus shipping. . . .
<http://www.entre-ed.org/stdsofpractice.htm>

White Paper promoting the importance of entrepreneurship education to
our future economy. http://www.entre-ed.org/_entre/whitepaperfinal.pdf

Description of the field of entrepreneurship education as defined by
entrepreneurs in 403 Performance Indicators, known as the **National
Content Standards for Entrepreneurship Education.** Members may
request multiple copies of the brochure at no charge, others may order for
\$.60 per brochure plus shipping. . . .
http://www.entre-ed.org/Standards_Toolkit/

Testimony from the US Congress supporting entrepreneurship
education at all levels of education (H Res #699) that passed on June 7,
2006. . . . <http://www.entre-ed.org/testimony.htm>

For further information and/or to join the Consortium

Contact

**The Consortium for Entrepreneurship Education
1601 W Fifth Ave. #199
Columbus, OH 43212**

**Cathy Ashmore
Executive Director
cashmore@entre-ed.org
614-486-6538
<http://www.entre-ed.org>**