

# CHAPTER 1

## Introduction

While much emphasis has been given to increased literacy rate among Malaysians in the last three decades, the percentage of students who complete upper secondary education has not been impressive. The number of pupils at primary level increased by 16.7 percent from 2.4 million in 1990 to 2.8 million in 1995, as shown in Table1.1. However the number of students who dropped out from Government and Government aided schools were quite large. 4 percent or 18000 of the total children in the age cohort 6-11 enrolled in these schools did not complete primary education, although some opted to study in private schools (Seventh Malaysian Plan). Enrolment at the lower and upper secondary level in Government and Government aided schools increased by 23.1 percent from about 1.3 million in 1990 to about 1.6 million in 1995, as observed in Table 1.1.

**Table1.1: Student Enrolment by Levels of Education in Local Public Institutions**

Level of Education	1990	1995	2000
Primary	2,445,600	2,776,870	2,922,860
Lower Secondary	943,920	1,124,910	1,279,020
Upper Secondary	371,760	514,970	693,880
Post-Secondary	73,980	80,080	95,530

(Source: Educational Statistics; Figures from Seventh Malaysian Plan).

At the lower secondary level, enrolment increased by 19.2 percent as a result of improvement in the transition rate from primary to lower secondary from 83 percent in 1990 to 84.5 percent in 1995 (Seventh Malaysian Plan). Likewise, enrolment at the upper secondary level increased by 38.5 percent as a result of implementing the policy of providing a basic education of 11 years. Continued emphasis was given to expanding facilities, increasing accessibility, reducing the dropout rate and improving teaching and learning materials during the Sixth Malaysian Plan to achieve high standard secondary education. Despite these improvement measures, the overall student achievement and the proportion who choose science subjects at the upper secondary level was a major concern to the Government. The percentage of science stream students declined from 22.8 percent in 1990 to 21.3 percent in 1995 (National Budget Malaysia, 2000).

In most cases academic achievement determines the continuity of education although some quit due to financial constraints. The academic performance of students in public examinations remains a pressing issue in education. The Government is aware of the importance of education for future generations. The construction of primary and secondary schools, computer laboratories in the rural areas has been given priority in Sixth and Seventh Malaysian Plan.

More vocational and technical schools were built to supply semi-skilled and skilled manpower. The enrolment in these schools increased from 30,940 in 1990 to about 48,800 in 1995 (National Budget Malaysia, 2000). To finance education programmes and to develop quality infrastructure for education, the Ministry of Education has allocated 14.08 billion Ringgit for the year 2000.

It was mentioned in National Budget for the year 2000, that the country need to fulfill the increasing demand for manpower, mainly in the field of medicine, computer and information technology. The government is trying to increase intake from qualified applicants to pursue courses in these fields besides encouraging private institutions to follow suit.

Malaysian education system is very much exam orientated and it is targeted at passing examinations. It is no longer sufficient to just pass examination these days but to survive in the present competitive economic and social conditions, obtaining excellent result is crucial. Students with very good results have wider academic opportunities, likely to receive scholarships and eventually have brighter career prospects. Each year, when the results of major public examinations are released, the overall performance of students is highlighted in the local newspapers to reveal the trend of academic performance. Despite continuous efforts to improve the overall academic performance of students at primary and secondary level, gaps in students' achievement between rural and urban schools still could not be eliminated.

The results of the Ujian Penilaian Sekolah Rendah (UPSR) <sup>1</sup> as published in the Seventh Malaysian Plan showed that only 18.8 percent of rural students scored excellent grades for English language, while urban students achieved a relatively high rate of 41.8 percent. Similar comparison for Mathematics revealed that 35.4 percent of rural students obtained excellent results as compared with 47.8 percent for urban students.

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UPSR<sup>1</sup>: National examination at the end of six years of primary education.

The academic performance in the SPM<sup>2</sup> examination, particularly of rural students, remained a major concern. The overall failure rate at the national level was 33.9 percent in 1993 and 32.9 percent in 1995 (Seventh Malaysian Plan). Of the total failures in 1995, 58.3 percent were rural students. Analysis of academic achievement by subject showed that more than half of the rural students failed English and 38.5 percent failed Mathematics.

Of late, the weak performance of students in English test/examination at all levels and the general decline of English in Malaysia have been major topics of discussion. The majority of Malaysian students leave the school system with a poor grasp of English despite being exposed to the language for 11 years (THE STAR, 6/3/98). With English gaining greater importance in business and information technology, it is imperative that students obtain more than a functional knowledge of the language.

Among the rural students who sat for pure science subjects (Biology, Chemistry and Physics) in 1995, 3.5 to 5.1 percent achieved excellent grades compared with 9 to 12 percent for urban students (Seventh Malaysian Plan). The percentage of students in science and technical streams at upper secondary level in Government and Government aided schools declined from 22.8 percent in 1990 to 21.3 percent in 1995.

While considerable research has focused on the factors affecting the academic performance in general (Leong Y.C et al., 1990, Chan L.N., 1984, Sadaseevan, 1995) in Malaysia, little is known about significant factors affecting performance of students' in specific subjects such as English, Bahasa Malaysia and Mathematics.

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SPM<sup>2</sup>: National examination at the end of two years of upper secondary education.

In view of the need to increase more science and technical manpower as mentioned in the Seventh Malaysian Plan, and to improve language proficiency, continuous research is required in this area, as the performance of students in these subjects not only affects the education system but also the future of the country.

This study analyzes the factors affecting academic performance of students in three subjects, namely English, Bahasa Malaysia and Mathematics in the SPM examination. These three subjects are common to students from the academic (non-technical), vocational and technical schools and were chosen to indicate the students' ability in languages, numerical and analytical skills.

By analyzing the factors that affect the performance of student in these subjects, one would be able to understand the critical factors that influence the performance of students from their multiracial, multicultural and different socio-economic background.

Students' performance in the SPM examination is measured by the grade score, classified as A1, A2, C3, C4, C5, C6, P7, P8 and F9 for all subjects. These grades are further grouped as Distinction, (A1 and A2), Credit (C3 to C6) and Pass (P7 and P8). A student who gets a grade of F9 is deemed to have failed the subject. The lower the grade score, the better the results.

Data for this study are obtained from the first part of the tracer study done by the Institute of Advanced Studies, University Of Malaya in 1989 (Chew et al; 1995). The survey includes the responses of 7944 fifth formers and 3238 sixth formers from Kelantan, Johor, Kuala Lumpur and Selangor. The sixth form students were selected as the subject for this study as they would have the required grades at the SPM level, for the three subjects of interest.

## **1.1 Objective of the Study**

The primary aim of this study is to analyze and identify the factors that affect the performance of upper secondary students in English, Bahasa Malaysia and Mathematics. The analysis hopes to determine to what extent the demographic, home environment and educational background variables affect the grades of students in each of the three selected subjects.

The study also aims to:

- (i) Examine the grade distribution of the three subjects among students in terms of selected explanatory variables.
- (ii) Identify the characteristics of high achievers (scoring A1, A2 and C3) in each of the three subjects.
- (iii) To recommend appropriate measures to be taken for improving performance in these selected subjects at the SPM examinations.

## **1.2 Importance of the Study**

The rapid growth in the Malaysian economy has led to increase in demand for skilled and semi-skilled labour force. Our country is shifting towards information and technology (IT) based society. Mathematics provides basic knowledge for students to face the ever changing technological and information age. A student who is proficient in first (Bahasa Malaysia) and second (English) language in Malaysia has an added advantage, as it will usually offer better grasp of other subjects.

This study is aimed at providing useful information on factors affecting academic achievement in three subjects namely: Bahasa Malaysia, English and Mathematics at the SPM examination. The findings from this study will help policy makers, schools and parents identify problem areas that need special attention and further improve the level of achievement. Schools would focus on issues that are within their control such as increasing teaching efficiency while parents would become more aware of the role they play in educating their children and may become more involved in Parent Teacher Associations (PTA). Knowing the factors affecting academic success will help students and schools adopt appropriate learning techniques.

### **1.3 The Malaysian Education System**

School, begins at the age of seven and goes on for six years which is known as primary schooling. Bahasa Malaysia is used as the medium of instruction in all national primary schools, while Mandarin and Tamil is the medium of instruction in the national-type Chinese and Tamil schools respectively. At the primary level, pupils have to sit for an assessment examination known as Ujian Penilaian Sekolah Rendah (UPSR) in standard six. However, continuation into lower secondary education is automatic. Pupils from the national-type schools normally go through a year of "remove class" where they concentrate on improving their proficiency in Bahasa Malaysia, while the national school pupils move directly to Form 1.

There are three distinct types of secondary schools, the academic, technical and vocational. The proportion of students studying in technical and vocational school (See Table 1.2) are far too few as compared to the number studying in the academic type schools. Continued efforts were taken during the Seventh Malaysian Plan period (1996-2000) to increased intake into secondary schools both academic and vocational.

**Table1.2: Enrolment in Upper Secondary Schools by Stream, 1990-2000**

Type of school	1990	1995	2000
Academic Stream Schools	340,820	466,170	598,350
Vocational and technical schools	30,940	48,880	89,440

(Source: Educational Statistics; Figures from Seventh Malaysian Plan).

Secondary education in Malaysia comprises three years of lower secondary (Form 1 to 3) and two years of upper secondary (Form 4 to 5), and another two years of pre-university education (Lower and Upper Form 6). The three major public exams in the Malaysian education system are: the Penilaian Menengah Rendah (PMR), Sijil Pelajaran Malaysia (SPM), and Sijil Tinggi Pelajaran Malaysia (STPM). The PMR examination is taken upon completing three years of lower secondary education.

Although previously the results of PMR examination determines the continuity to upper secondary education, beginning 1993 all students who have at least one passed subject are allowed to proceed to the fourth form. This change was implemented with the aim of providing at least 11 years of education. The transition rate from lower to upper secondary was about 67 percent in 1990 but increased to 83 percent in 1995 (Seventh Malaysian Plan).



The upper secondary is divided into three different pathways, namely academic, technical and vocational. At the end of two years of upper secondary education, students either take the SPM or SPMV<sup>3</sup> (Sijil Pelajaran Malaysia Vokasional). The SPM results will decide whether students would be able to continue with pre-university education in public or private schools to take the STPM examination at the end of sixth form. The STPM examination results are used as the criteria for admitting candidates into local universities. Otherwise students have an option of either to study locally at private institutions in academic, technical or professional courses or to study abroad or stop studying and join the work force.

#### **1.4 Organization of the Study**

Chapter 1 includes the introduction of the study together with the objectives and importance of the study. Chapter 2 provides a Literature Review and summarizes various studies done previously on factors affecting the academic performance of students in general and where possible on subject specifics. Description of data sources and the methodology employed in the analysis is explained in Chapter 3. Chapter 4 describes the characteristics of the selected sample namely the demographic, home environment and educational background variables. Chapter 5 examines the effect of explanatory variables on subject performance by using cross tabulations and descriptive statistics. Results of Regression and Logistic Regression Analysis are discussed in Chapter 6. Finally, Chapter 7 provides a concise summary together with appropriate recommendations for future reference and implementation.

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SPMV<sup>3</sup>: National examination at the end of two years of upper secondary education vocational students