COPYRIGHT
This is a thesis accepted for a Higher Degree of the University of London. It is an unpublished typescript and the copyright is held by the author. All persons consulting the thesis must read and abide by the Copyright Declaration below.

COPYRIGHT DECLARATION
I recognise that the copyright of the above-described thesis rests with the author and that no quotation from it or information derived from it may be published without the prior written consent of the author.

LOANS
Theses may not be lent to individuals, but the Senate House Library may lend a copy to approved libraries within the United Kingdom, for consultation solely on the premises of those libraries. Application should be made to: Inter-Library Loans, Senate House Library, Senate House, Malet Street, London WC1E 7HU.

REPRODUCTION
University of London theses may not be reproduced without explicit written permission from the Senate House Library. Enquiries should be addressed to the Theses Section of the Library. Regulations concerning reproduction vary according to the date of acceptance of the thesis and are listed below as guidelines.

A. Before 1962. Permission granted only upon the prior written consent of the author. (The Senate House Library will provide addresses where possible).

B. 1962 - 1974. In many cases the author has agreed to permit copying upon completion of a Copyright Declaration.

C. 1975 - 1988. Most theses may be copied upon completion of a Copyright Declaration.

D. 1989 onwards. Most theses may be copied.

This thesis comes within category D.

☐ This copy has been deposited in the Library of UCC.

☐ This copy has been deposited in the Senate House Library, Senate House, Malet Street, London WC1E 7HU.
PROFILING THE POOR LEARNER WITHIN THE MALAYSIAN PRIMARY SCHOOL SYSTEM:
IMPLICATIONS FOR BETTER PROVISION FOR CHILDREN FACED WITH DIFFICULTIES COPING WITH SCHOOL

JAWAKHIR MIOR-JAAFAR

University College London
Doctor of Philosophy

February 2005
ABSTRACT

Maximizing national productivity through nurturing individual growth is a primary concern of developing nations like Malaysia. One corollary of this concern is the need to detect failing and 'at risk' pupils so that correct and timely intervention can be given to them. The primary purpose of this study is (1) to contribute to this by finding out and critically evaluating the existing system of monitoring poor performance and providing remedial treatment; (2) to use the data gathered to build a checklist for preliminary identification and categorization of 'poor learners'; and finally (3) to use the factors included in the checklist to develop a simple, useful and convenient mathematical model that can be used to predict 'at risk' pupils in Malaysian primary schools. In order to address the above research issues, an in-depth study of four Malaysian primary schools was carried out.

The research was conducted in two stages. During the preliminary stage, the researcher used interviews, questionnaires, and document study to obtain, from school administration and teachers, information on the larger issues of the educational infrastructure. A sample of pupils' academic performance data was also done.

The second stage of the study comprised of (1) a descriptive statistical analysis of survey data obtained via the teacher, pupil, and parent questionnaires; (2) an inferential statistical analysis of the more pertinent survey data in relationship to pupils' performance in school-based assessments over three years covering Standards 4, 5, and 6 of their upper primary education, as well as in the standardized national Primary School Assessment Test.

The study found that most "poor learners" are self-professed monolingual boys of Malay ethnicity from low socioeconomic family backgrounds, who have particular attitudes towards learning. Two main products resulted from this study: a checklist that characterizes the poor learners and a logistic regression model, which uses a mathematical equation to predict 'at risk' pupils.
# Table of Contents

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE PAGE</td>
</tr>
<tr>
<td>ABSTRACT</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
</tr>
</tbody>
</table>

## Chapter One: Introduction

1.0 Background Information | 18
1.1 Statement of the Problem | 19
1.2 Significance of the Study | 25
1.3 Limitations of the Study | 26
1.4 The Linguistic Scene in Malaysia | 27
  1.4.1 The Native Speakers of Bahasa Melayu and Indigenous Languages | 29
  1.4.2 The Languages Used by Immigrants | 30
  1.4.3 The Colonial Languages | 31
  1.4.4 Pidgins and Creoles | 31
1.5 National Policies Pertaining to Education | 34
1.6 The National Primary School System | 35
  1.6.1 The New Primary School Curriculum | 37
CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction 49

2.1 The Influence of School-related Factors on Academic Achievement 51

2.1.1 The Influence of Grouping by Ability on Academic Achievement 54

2.1.2 The Influence of Assessment on Academic Achievement 57

2.1.3 Literacy in Malaysia 62

2.1.4 Medium of Instruction 65

2.1.5 The Influence of Reading Ability on Academic Achievement 69

2.1.6 Remedial Education and Academic Achievement 75

2.1.7 Special Education in Malaysia 82

2.1.8 Inclusive Education in Malaysia 83

2.2 The Influence of Pupil Factors on Academic Achievement 87

2.2.1 The Influence of Gender on Academic Achievement 93

2.3 The Influence of Parental Involvement on Academic Achievement 96

2.4 The Influence of Socioeconomic Factors on Academic Achievement 104

2.5 The Influence of Language Use Patterns on Academic Achievement 110
3.2.2 Data from the Senior Assistant Questionnaire 150

3.2.2.1 School Administration Structure and Organization 150

3.2.2.2 Teacher Population 150

3.2.2.3 Pupil Population 151

3.2.2.4 Discussion of the Data from the Senior Assistant Questionnaire 153

3.2.3 Data from the Teacher Interview 154

3.2.3.1 Teachers' Education Attainment and Professional Background 155

3.2.3.2 Assessment Procedure of Pupils' Academic Performance 157

3.2.3.3 Identification Procedure and Definition of Poor Learners 162

3.2.3.4 Characteristics of a Poor Learner 162

3.2.3.5 Provision for Poor Learners 166

3.2.3.6 Teachers' Perception of Pupils' Language-use Patterns 170

3.2.3.7 Discussion of the Teacher Interview Data 172

3.2.4 Data from Pupils' School-based Assessment Results 179

3.2.4.1 Academic Performance of Low Achievers in Comparison to Performance of High Achievers 181

3.2.4.2 Performance of Top 5% Pupils 184

3.2.4.3 Performance of Top 5% Pupils 187

3.2.4.4 Pupils' Performance by Ethnic Origin 189

3.3 Conclusion 190
CHAPTER FOUR: THE MAIN STUDY: METHODOLOGY

4.0 Purpose of the Main Study 198

4.1 The Research Questions 198

4.2 Aims of the Main Study 199

4.3 Research Design 200

4.4 The Participants 204

4.4.1 The Schools 204

4.4.2 The Pupil Sample: Rationale for Inclusion of Standard Six Pupils 205

4.4.3 The Parent Sample 206

4.4.4 The Teacher Sample 207

4.5 The Research Tools 207

4.5.1 Government Policy Documents 208

4.5.2 Pupils' Examination Results 208

4.5.3 The Questionnaires 209

4.5.3.1 The Development of the Questionnaires 209

4.5.3.2 Piloting the Questionnaires 211

4.5.3.3 The Pupil Questionnaire: The Piloting and Restructuring of the Final Version 213

4.5.3.4 The Parent Questionnaire: The Pilot and Restructuring of the Final Version 214

4.5.3.5 The Teacher Questionnaire: The Pilot and Restructuring of the Final Version 216

4.5.4 Procedures 216

4.5.4.1 The Pupil Questionnaire: Procedures for Administering the Final Version 216

7
4.5.4.2 The Parent Questionnaire: Procedures for Administrating the Final Version 217

4.5.4.3 The Teacher Questionnaire: Procedures for Administrating the Final Version 219

4.5.4.4 Procedure for Categorizing Pupil Sample into Performance Categories 219
   4.5.4.4.1 The Grading System Used by the School 223
   4.5.4.4.2 Standard Deviation 225
   4.5.4.4.3 Quartiles 227

4.5.4.5 Pupil Sample Categorization 230
   4.5.4.5.1 Procedure for Organizing the Pupil Sample by Gender 231
   4.5.4.5.2 Procedure for Organizing the Pupil Sample by Ethnicity 232

4.5.4.6 Further Organizational Procedure for the Survey Data 237
   4.5.4.6.1 Socioeconomic Status Factor 238
   4.5.4.6.2 The Home Factor 239
   4.5.4.6.3 The School Factor 239
   4.5.4.6.4 The Language-use Factor 240

4.5.5 Data Analysis Procedures 241
   4.5.5.1 Correlations 241
   4.5.5.2 Multiple Regression Procedures 242
# CHAPTER FIVE: EXAMINATION RESULTS: FINDINGS AND DISCUSSION

5.0 Introduction 243

5.1 Examination Results as the Index of Poor Performance 244

5.1.1 Description of Pupils' Performance in Bahasa Melayu Comprehension 246

5.1.2 Description of Pupils Performance in Bahasa Melayu Writing 250

5.1.3 Description of Pupils' Performance in Mathematics 254

5.1.4 Description of Pupils' Performance in Science 257

5.1.5 Poor Performers Based on Absolute Scores in Examination 260

5.2 Remedial Intervention and Pupils' Performance 262

5.3 Correlation 264

# CHAPTER SIX: QUESTIONNAIRES: FINDINGS AND DISCUSSION

6.0 Introduction 267

6.1 Teacher Questionnaire 267

6.1.1 Teacher Sample Description 268

6.1.2 Teachers' Perception of School Practices 273

6.1.3 Language-use Pattern 275

6.2 Pupil Questionnaire 279

6.2.1 Gender and Ethnicity 279

6.2.2 Socioeconomic Factor 282

6.2.3 School Factor 285

6.2.4 Home Factor 296
8.1.5 Research Question 4: What research design can be used to identify the relationships that exist between the different variables that affect performance?

8.16 Research Question 5: What statistical model can be used to reliably identify/predict poor learners?

8.2 The Whole Study in Retrospect

8.3 Implications

8.4 Recommendations

8.5 Recommendations for Further Research

REFERENCES

LIST OF APPENDICES

APPENDICES
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Subjects Taught in the Integrated Curriculum for Primary School (Source: Education in Malaysia, 2000)</td>
<td>37</td>
</tr>
<tr>
<td>2 Teaching Time Allocation in the Integrated Curriculum for Primary School (Source: Education in Malaysia, 2000)</td>
<td>42</td>
</tr>
<tr>
<td>3 Teacher Training Curriculum (Source: Education in Malaysia, 2000)</td>
<td>45</td>
</tr>
<tr>
<td>7 Background Information of the Teacher Sample. (N = 8)</td>
<td>156</td>
</tr>
<tr>
<td>8 Functions of School Assessments: Respondents' Perception</td>
<td>161</td>
</tr>
<tr>
<td>9 Subjects Poor Learners Find Difficult: Respondents' Perception</td>
<td>163</td>
</tr>
<tr>
<td>10 Classroom Based Activities for Poor Learners: Respondents' Perception</td>
<td>166</td>
</tr>
<tr>
<td>11 Percentage of Low Achievers in Standard 4 (1998) and Standard 5 (1999) Based on Performance in Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (MATH) and Science (SCI)</td>
<td>181</td>
</tr>
<tr>
<td>12 Percentage of High Achievers in Standard 4 (1998) and Standard 5 (1999) Based on Performance in Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (MATH) and Science (SCI)</td>
<td>182</td>
</tr>
</tbody>
</table>
13 School A Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 7) 184

14 School B Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 4) 185

15 School C Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 3) 185

16 School D Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 8) 186

17 School A Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 7) 187

18 School B Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 4) 187

19 School C Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 3) 188

20 School D Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 8) 188

21 Number and Percentage of High and Low Achievers by Pupils' Ethnicity 189

22 Marking Scheme Provided by Ministry of Education 223
23 Derived Performance Level Categories Based on the Marking Scheme Provided by the Ministry of Education

24 Derived Performance Level Categorization Based on Standard Scores

25 Derived Performance Level Categorization Based on Quartiles

26 Quartile Splits for Poor and Excellent Learners: 1998, 1999, 2000

27 Number of Excellent and Poor Learners by Gender (N = 137)

28 Pupil Sample by Ethnicity (N = 409)

29 Pupil Sample by Gender and Ethnicity (N = 409)

30 Poor and Excellent Learners by Ethnicity (N = 137)

31 Descriptive Statistics of Pupils' Performance in Bahasa Melayu Comprehension (N = 409)

32 Number of Pupils Within the 1st and 4th Quartiles Based on Bahasa Melayu Comprehension Scores Over Three Years

33 Descriptive Statistics of Pupils' Performance in Bahasa Melayu Writing (N = 409)

34 Number of Pupils Within the 1st and 4th Quartiles Based on Bahasa Melayu Writing Scores Over Three Years

35 Descriptive Statistics of Pupils' Performance in Mathematics (N = 409)

36 Number of Pupils Within the 1st and 4th Quartiles Based on Mathematics Scores Over Three Years

37 Descriptive Statistics of Pupils' Performance in Science (N = 409)

38 Number of Pupils Within the 1st and 4th Quartiles Based on Science Scores Over Three Years
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>Number of D and E grades Based on Pupils' Absolute Scores in Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science Over Three Years</td>
<td>261</td>
</tr>
<tr>
<td>40</td>
<td>Total Number of Failures</td>
<td>261</td>
</tr>
<tr>
<td>41</td>
<td>Number of Poor Learners Based on Pupils' Absolute Scores</td>
<td>261</td>
</tr>
<tr>
<td>42</td>
<td>Descriptive Statistics of Remedial Pupils' Performance in Bahasa Melayu Comprehension</td>
<td>262</td>
</tr>
<tr>
<td>43</td>
<td>Descriptive Statistics of Remedial Pupils' Performance in Bahasa Melayu Writing</td>
<td>263</td>
</tr>
<tr>
<td>44</td>
<td>Descriptive Statistics of Remedial Pupils' Performance in Mathematics</td>
<td>263</td>
</tr>
<tr>
<td>45</td>
<td>Descriptive Data of Remedial Pupils' Performance in Science</td>
<td>263</td>
</tr>
<tr>
<td>46</td>
<td>Teacher Sample Description (General Background) Information</td>
<td>269</td>
</tr>
<tr>
<td>47</td>
<td>Teacher Sample Description (School Practices)</td>
<td>275</td>
</tr>
<tr>
<td>48</td>
<td>Teacher Sample Description (General Linguistic Background)</td>
<td>276</td>
</tr>
<tr>
<td>49</td>
<td>Teacher Sample Description (Language-use at School)</td>
<td>277</td>
</tr>
<tr>
<td>50</td>
<td>Pupil Sample Description (Percentage by Gender and Ethnicity)</td>
<td>279</td>
</tr>
<tr>
<td>51</td>
<td>Pupil Sample Description by Gender and Ethnicity: Poor and Excellent Groups</td>
<td>280</td>
</tr>
<tr>
<td>52</td>
<td>Parental Occupation and Educational Attainment: Poor and Excellent Groups</td>
<td>283</td>
</tr>
<tr>
<td>53</td>
<td>Poor and Excellent Pupils' General School Background Information</td>
<td>286</td>
</tr>
<tr>
<td>54</td>
<td>Poor and excellent Pupils' Perception of School Subjects' Difficulty Level</td>
<td>288</td>
</tr>
</tbody>
</table>
55 Poor and Excellent Pupils' Perception of Good Pupil Practices 290
56 Poor and Excellent Pupils' Perception of their Participation in Class 292
57 Poor and Excellent Pupils' Perception of Teacher Practices 293
58 Poor and Excellent Pupils' Performance by Awards and Remedial Intervention 295
59 Poor and Excellent Pupils' Activities at Home 296
60 Parental Reward, Punishment for and Involvement in Poor and Excellent Pupils' Performance 299
61 Poor and Excellent Pupils' General Language-use Pattern 302
62 Poor and Excellent Pupils' Language-use Pattern at School 303
63 Poor and Excellent Pupils' Language-use Pattern at Home 307
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Research Design Model</td>
</tr>
<tr>
<td>2</td>
<td>The Derived Checklist for the Identification of Poor Learners</td>
</tr>
<tr>
<td>3</td>
<td>The Multiple Regression Equation</td>
</tr>
<tr>
<td>4</td>
<td>The Simple Logistic Regression Equation</td>
</tr>
<tr>
<td>5</td>
<td>The Logistic Regression Equation with Multiple Predictors</td>
</tr>
<tr>
<td>6</td>
<td>Summary of the Model</td>
</tr>
<tr>
<td>7</td>
<td>List of Derived Predictor Variables</td>
</tr>
<tr>
<td>8</td>
<td>List of Generated Value of z</td>
</tr>
</tbody>
</table>
CHAPTER ONE

INTRODUCTION

1.0 Background Information

Malaysia, a country situated in the central region of South East Asia, is made up of West Malaysia, a peninsular connected to the south end of Thailand on the Asian continent, and East Malaysia on the island of Borneo that has two of the thirteen Malaysian states. The population of Malaysia is approximately 23.27 million, with more than two-thirds of the population inhabiting West Malaysia. A large proportion of the population of Malaysia is very young, with approximately 33.3% of the total population within the 0-14 age group (www.statistics.gov.my/english/pressdemo.htm).

Since its independence in 1957, Malaysia has been successful at maintaining a harmonious multiracial existence and rapid economic growth combined with improved educational provision. Poverty and malnutrition, two of the biggest obstructions to population growth and economic development, though still existing, are at controlled levels and moving towards eradication. Over the 25 years from 1973 to 1998, poverty rate in Malaysia has shrunk from slightly over fifty percent of the population to just 7.8% and this figure is steadily decreasing today (www.worldbank.org/ eapsocial/countries/malay/pov2.htm).
1.1 Statement of the Problem

Although the population enjoys rapid growth in many areas of development, one area remains seriously underdeveloped—service provision for children with learning difficulties. One problem is that identification and remediation measures for many aspects of learning difficulties are haphazard in Malaysia. There are no clear and standardized definitions of the different learning difficulties, which makes identification difficult and proper remediation not on target and therefore ineffective. The Special Education Department in the Malaysian Ministry of Education was not established until 1964 whereby the special education needs recognized only learning difficulties faced by children with visual and hearing disabilities (Faridah, 2000). It was not until 20 years later, in 1984, that the Ministry of Education recognized the need to carry out a feasibility study for the provision of assistance to children with mild autism (www.moe.gov.my/kpm/reform.htm). Up until today, among the learning disabilities recognized by the Special Education Department are the disabilities faced by children with Down’s syndrome, dyslexia and autism.

Malaysian Education Ministry Parliamentary Secretary announced that starting January 2004, the intelligence quotient (IQ) of Standard 1 pupils will be tested using the Dyslexia Manual Testing Equipment to gauge their competency level in keeping up with lessons taught in the classroom and to detect whether they are dyslexic (Utusan Malaysia, September 30, 2003). He went on to say that the
Education Ministry currently has 166 specialists in teaching dyslexic children, and more would be trained for the purpose. Since Malaysia's main target is to become a developed nation by the year 2020, it has to ensure that its school-age population is provided with the best of opportunities to realize its potentials and capabilities to the fullest. Availability of diagnostic instruments such as this newly devised Dyslexia Manual Testing Equipment is long overdue.

Malaysian teachers have been known to speak of a certain percentage of pupils who, despite their efforts, are performing below the pass mark level, or who are unable to attain satisfactory literacy skills after six years of primary school education. In relation to that, a glance at any academic records would reveal that roughly 5 - 10 % of Malaysian national primary schoolchildren are consistently failing each year. This number may be due to non-linguistic factors for example low IQ or lack of opportunity to learn and a host of other factors. However, unless an attempt is made to identify and understand these factors, whether through IQ tests, linguistic profiling or the like, proper remedial provisions and preventive measures cannot be designed. This is the basis upon which this current research is built.

Furthermore, it was discovered in the process of carrying out this current study, that there was no specific term used to describe pupils who have problems coping with learning. Schools refer to children under these circumstances loosely as "slow or poor learners" or "slow or poor readers". The many physical
or emotional deficits in school-aged children that may influence their academic performance are still being handled as one broad subject that comes under the Education Ministry's Special Education Department. The problem is not merely with identification of the specific difficulties faced by school-going children, but also with service provision for those with specific needs.

It is the common practice in schools to refer for remedial programmes, children whose problems are not recognized by the Special Education Department, but who nevertheless have difficulties with schoolwork. Remedial education was made available for mainstream children in some of the schools 1965. Its main purpose is to ameliorate problems in reading, spelling and arithmetic. Schoolchildren are eligible for remedial help only if they are identified as having not yet mastered reading by the end of Standard 3 as determined by the diagnostic test designed by the Ministry of Education. In circumstances where the remedial programme is not yet in place in the school, children with reading problems are provided with help at their teachers' discretion. Even where they are available, remedial classes involve taking the children out of their mainstream classes during Bahasa Melayu periods to be taught remedial reading in small groups using one standard programme through the medium of Bahasa Melayu. Bahasa Melayu, which is the country's national language, was implemented beginning 1984 as the medium of instruction for all levels of education. One of the negative effects of the implementation of Bahasa Melayu as the medium of instruction is the poor mastery of the English language amongst Malaysian
youths. It was then decided that beginning 2003, two school subjects, Mathematics and Science, will be taught through the medium of English.

In 1988, the government began to provide education for children with learning disabilities. However, it was not until the passing of the Education Act of 1996, that children with learning disabilities are included into the definition of special needs, together with the hearing and visual impaired. The Ministry of Education therefore defines children with special education needs as those with visual, hearing, and learning disabilities. Children with learning disabilities are further defined by the Ministry as those with:

a) Down's syndrome
b) autism
c) cognitive disabilities
d) behavioural and emotional difficulties
e) health problems
f) speech and language difficulties.

This definition came about based on a clause in the Education Act of 1996, which states that children with learning disabilities are educable but should be taught using a modified curriculum in special classes in regular schools (Faridah, 2000).

Schools define a "slow" or "poor learner" as a child who has been consistently failing in school-based assessments over a period of two or three years. When it has been established that a particular child's academic performance in school-
based assessments is showing a pattern of no or little improvement, the child’s reading ability will be tested using a diagnostic tool set by the Ministry of Education. Therefore, children in the school-based remedial programmes are those who have been first identified as slow or poor learners by the class teacher and then, confirmed through the use the diagnostic tool, as slow or poor readers by the remedial teacher.

Studies conducted in Malaysia on the difficulties children face in learning have identified a number of factors as influencing academic achievement. These are the family’s socioeconomic status, the cognitive and emotional background or physical characteristics of the children (Mok, 1994; Syed Abu Bakar, 1994; Kamaruddin, 1993) and the school resources including the curriculum (Leong, Cheong, Chew, Suradi, Marimuthu, Abdul Aziz, Abdul Rahim, and Chew, 1990). However, these studies provide insufficient guidelines as to what could be done to efficiently help these children. It is the intention of this current research to fill in what is felt to be the gaps in this area.

The main purpose of this current study, then, is to investigate and identify factors within the multilingual learning environment in Malaysia, which may account for poor performance among children in national schools. Such an investigation is much needed, as it will provide better understanding of the interaction between teaching-learning practices and poor academic achievement in the Malaysian environment.
The study was carried out in two stages—the preliminary study and the main study. The preliminary study was deemed to be necessary to establish the framework for the main study. As such the main aim of the preliminary study was to obtain a description of the school practices in relation to poor performance and to gather information that would help fine tune the main research questions. Specifically the investigation covered:

1. The teaching-learning strategies currently in place in schools;
2. The process and methods of defining and identifying poor learners;
3. The percentage of pupils deemed as poor learners within the school population;
4. The provisions available for poor learners.

The preliminary study attempt to ascertain, from the perspective of the school, the teaching-learning practices in relation to a poor learner and the extent of poor performance within the school population studied. The information obtained was then critically evaluated and used to design and determine how the investigation into poor learning could be extended to factors beyond those related to the school environment. The main study was designed, in addition to confirming the information obtained from the preliminary study, to investigate three main issues

1. Whether and how gender, ethnicity, school, home, socioeconomic status and linguistic factors influence poor performance;
2. What the characteristics of a poor learner are;
(3) Whether certain factors can be put into a formula, which could then be used to predict pupil performance.

In investigating the above issues, the following research questions were formulated:

1. What factors could be used to characterize the poor learner?

2. How reliable is the school's method of measuring academic performance:
   - Do the school-based assessment results correlate with the PSAT results?
   - Does the academic performance of a child who has been identified as a poor learner improve over time?

3. To what degrees do the gender, ethnicity, home, school, language-use, and socioeconomic status factors individually influence academic achievement?

4. What research design can be used to identify the relationships that exist between the different variables that affect performance?

5. What statistical model can be used to reliably identify/predict poor learners?

1.2 Significance of the Study

The government of Malaysia is committed to the improvement of learning and eradication of illiteracy. In order to do this, government officials require information on the current and actual school practices especially those practices
that involve children who are failing academically. It is hoped that the findings and recommendations of this study will contribute to the development of a more efficient educational system, one that does more for pupils with difficulties coping with learning and literacy.

1.3 Limitations of the Study

Firstly, the study is limited by the efficiency of the instruments used to collect the data, which were designed specifically for this study and relied heavily on the face validity of the responses provided by the participants.

Secondly, the success of the face-to-face sessions with the participants had to take into account the possible inherent limitations of inter-personal relationships.

Thirdly, the four schools which were selected to illustrate the administrative and organizational structure of the Malaysian primary school system, and in particular the services rendered to pupils who face difficulties with learning, cannot be regarded in every respect as representative of all the primary schools in Malaysia.

Fourthly, the problems arising when making meaningful comparisons between pupils, who differ in every respect, are recognized. What may look applicable to this sample has to be applied with caution to other samples.
Fifthly, due to factors beyond the control of the researcher, the school sample consists of two mixed-gender schools and two boys-only schools. Therefore the pupil sample consisted of more boys than girls. Although the analysis procedure has tried to eliminate this gender bias towards the boys, it is nonetheless a methodological flaw in the research— an issue that will be discussed further in Chapter Eight.

Finally, Malaysia as a country is relatively small, but its pluralistic society makes the sociolinguistic situation in Malaysia complex. The scope of this study is limited to dealing with only the main sociolinguistic groups present in the country. Therefore it cannot claim that the findings are reflective of the country's entire primary school population.

Having defined the main aspects of the research in global terms here, the following sections will begin with a description of the complex sociolinguistic situation that influences the education environment in which Malaysian schoolchildren do their learning.

1.4 The Linguistic Scene in Malaysia

Historically, Malaysia had been under British rule from the late nineteenth century until its independence in 1957. The colonial policy of encouraging mass immigration at the turn of the last century until about the late 1930s changed the
relatively homogeneous Malay population into a more diversified society. Presently there are many different ethnic groups living in Malaysia. However, the three main ethnic groups are the Malays, the Chinese and the Indians, who speak one or more of the four main languages: Bahasa Melayu, English, Mandarin and Tamil.

Bahasa Melayu is the first language of the Malays, who account for approximately 65% of Malaysia's total population (www.statistics.gov.my/english/pressdemo.htm). The Chinese community accounts for around 25% of the population (www.statistics.gov.my/english/pressdemo.htm) and speaks one of the many Chinese dialects, mainly Mandarin, Cantonese and Hokkien. Indians make up approximately 8% of the population (www.statistics.gov.my/english/pressdemo.htm) and their main language is Tamil. There are also communities that speak other Indian languages (e.g., Punjabi, Urdu, Telegu, and Malayalam). The natives of East Malaysia make up the remainder 2% of the population and they speak a range of indigenous languages that are in fact varieties of Bahasa Melayu (www.statistics.gov.my/english/pressdemo.htm).

To describe the people of Malaysia as speaking 'four main languages' does not give a full picture of the country's linguistic diversity. Asmah (1992) categorized the various languages spoken in Malaysia into four groups based on origin, history and the individual role each of these languages played in the
development of the country’s multilingual society. These categories are summarized in the following sections.

1.4.1 The Native Speakers of Bahasa Melayu and Indigenous Languages

The group of languages that are indigenous to Malaysia includes Bahasa Melayu and the tribal languages of Borneo. Bahasa Melayu (literally translates as the Malay language) is the mother tongue of the indigenous Malay people and is spoken in its various dialects, depending on the geographical/dialectal region within which people reside in or originate from. Although the various indigenous languages are distinct and often unintelligible to members of the different groups of speakers, Bahasa Melayu, informally referred to as Malay, is the only language that would be likely to be understood by most. It is also the national language.

As a result of the post-independence periods of racial discontent, which culminated in the racial riot of May 13, 1969, the government tried to improve national integration through language by giving Bahasa Melayu a new name—Bahasa Malaysia (translates as Malaysian language). With this change of name the government had hoped to make Malaysians feel that the language is not just the mother tongue of Malay people but also the language of all Malaysians. Today, the term Bahasa Melayu is still used interchangeably with Bahasa Malaysia throughout the country. However, internationally, Bahasa Malaysia is
The term used. It is personal preference of this researcher to use the term ‘Bahasa Melayu’ as the language used in the classroom and outside the classroom and the term ‘Malay’ to refer to the people of Malay ethnicity.

1.4.2 The Languages Used by Immigrants

The second category determined by Asmah (1992) consists of languages brought into the country by immigrants. There are five main ones:

1. The Chinese language and its many dialects (including Mandarin, Cantonese, Hokkien and Teo Chew).

2. The languages from the Indian subcontinent (including Tamil, Telugu, Punjabi and Hindi).

3. A variety of the Thai language spoken by Malay settlers in Southern Thailand, which was in ancient times, part of the Malay Archipelago.

4. Arabic, which was brought into the country by Arab traders and Islamic teachers, and which is now spoken mainly in the Arabic and Islamic religious schools in the country.

5. The languages and dialects from Indonesia and the Philippines. The Indonesian language has been widely used in the region since ancient times. However, Malaysia's rising economic prosperity towards the end of the 20th century brought in new Indonesian as well Filipino immigrants, many of whom work as live-in child-minders and maids in
 Malaysian homes. This new influx encouraged a wider spread of these languages.

As with the various indigenous languages, each of the five social groups above has its own dialects or language, which can be unintelligible to speakers of other languages or dialects.

1.4.3 The Colonial Languages

In the third category Asmah (1992) discusses the colonial languages; of which the English language is the most influential. During the colonial period, the English had strong control over Malaysia's administration. Until today, English still retains its prestige and importance among Malaysians as a powerful social and economic means of communication both within the country and internationally. It does so mainly through its functions as the language of science and knowledge and its status as a world language.

1.4.4 Pidgins and Creoles

Asmah's (1992) fourth and final category refers to the pidgins and Creoles existing in this country. Pidgin is the result of the communicative strategies of adults who already have a native command of at least one language. When two groups of adults without a common language come into contact and neither group has the opportunity, or the will, to learn the other's language, imperfect
language learning is likely to take place (Sebba, 1997). Although pidgins are languages without native speakers, under conditions of social change and if the pidgin is maintained long enough, the children of the community concerned have been known to acquire the pidgin, or something close to it, as a native language. When pidgin begins to have native speakers, the pidgin is said to have creolized (Sebba, 1997).

There are quite a number of pidgins in Malaysia, the most common being ‘Bazaar Malay’ (Bahasa Melayu Pasar), which has Bahasa Melayu at its base and a free in-flow of words from English, Chinese and Tamil. This is the form of Bahasa Melayu that most Malaysians, including children, use in their daily informal communication especially between the different ethnic groups. Just as common is the Malaysian pidgin English, which has English at its base and free borrowing of words from any one or all of the other three main languages—Malay, Chinese and Tamil. Other pidgins are the Chinese pidgins, with the more dominant dialect of a particular area set as the base and words from other dialects and Bahasa Melayu mixed in the conversation. Over the years, these languages became a part of Malaysia’s linguistic characteristic.

By the 1960s, Malaysia had become a pluralistic society with bilingualism a distinctive characteristic of the population. Asmah (1992) estimated that, excluding the better-known foreign languages like French, German or Japanese, about 80 languages are spoken in Malaysia. Grimes, (1996) however, suggests
that there are 138 languages spoken. During the British rule and years after independence, the administration of the country was carried out through four main languages—English, Bahasa Melayu, Mandarin and Tamil. One common language was needed through which Malaysians could communicate with the government and with each other, and more importantly through which they could obtain their education and also to develop and forge national integration.

Ten years after independence, the government implemented a programme under the National Language Act (1967), which established

"Bahasa Melayu as the national language, which should be put centre stage in all aspects of national life; strengthening its position as the official language, the language of government and the courts, and in the process, replace English as the key medium of instruction in all institutions of learning, from primary to universities." (www.moe.gov.my/english/kpm/reform.htm).

Although there have been no studies on the effect of Bahasa Melayu as the medium of instruction on academic performance, there is an abundance of literature on the effect on the level of English proficiency (Zulkifley, 1994; Rajeswary, 1990;). The literature in this area suggests a common finding—that through the use of Bahasa Melayu as the medium of instruction, the level of English proficiency among Malaysians has declined. The poor proficiency in
English has decreased the ability of Malaysians to participate effectively in the international market particularly in the fields of Business and Science and Technology. Awareness of the importance of raising Malaysians' ability to participate and compete in the English-speaking world has been a constant topic for discussion among parents, educators and policy-makers—culminating in the switch from using Bahasa Melayu to using English as the medium to teach Mathematics and Science beginning January 2003.

1.5 National Policies Pertaining to Education

As a new nation, Malaysia's primary concern is to build a prosperous and modern society for the people and also to develop an identity that characterizes itself as an entity apart from other nations. The current education system was developed to support its multi-faceted role in creating a united, democratic and progressive society. Its main objective is to put into practise policies that promote national unity and the development of a skilled and educated workforce (www.unesco.org/wef/countryreports/Malaysia/rapport_1.html). The Federal Constitution and the Education Act (1996) ensured the provision of free education to every child of school-going age, for a period of eleven years.

To control the quality of educational services provided, most schools have become government or government-aided schools. Starting from 1975, three
types of government and government-aided primary schools were established in Malaysia:

1. The National primary schools where the medium of instruction is Bahasa Melayu,
2. The National type primary schools where the medium of instruction can be any of the other ethnic languages apart from Bahasa Melayu, and
3. Special Education classes and schools for pupils who are physically and mentally challenged.

By the end of 2001, statistics from the Ministry of Education indicated that there are 526 Tamil primary schools, 1,284 Chinese primary schools and 5,379 national primary schools, and 28 Special Education primary schools in Malaysia (www.almanak.com.my/statistics/images/b_Pendidikan01.gif). This current study will focus on the academic performance of only pupils enrolled in national primary schools.

1.6 The National Primary School System

The Malaysian education system encompasses three phases: 6 years of primary education, 5 years of secondary education, and 2 years of pre-university studies. Education at the primary level aims to provide a sound foundation in the basic
skills of reading, writing and arithmetic as well as thinking skills and moral values.
The age of admission to the first year of primary education, Standard 1, is six-plus years of age. The age of completion of primary education is 12 plus years after they have completed Standard 6. Promotion from Standard 1 to Standard 6 is automatic with school-based assessments administered continuously at scheduled intervals throughout the academic year. Feedback from the assessments is used to monitor pupils' scholastic achievement and to decide on remediation strategies for those who need it.

Towards the end of Standard 6, pupils sit for a common public examination, the Primary School Assessment Test (PSAT). The PSAT is an assessment programme that is administered centrally by the Ministry of Education at the end of primary school education to evaluate primary schoolchildren's academic achievement. The specific objective of the PSAT is to assess pupils' achievement level in the following areas: (i) Reading and Writing skills in Bahasa Melayu, (ii) Science, (iii) Mathematics, iv) Reading and Writing skills in English. (i), (ii) and (iii) are tested through the medium of Bahasa Melayu, and (iv) through the medium of English. Good performance in the PSAT ensures the pupils' placement in the choice secondary schools in the country, most of which are boarding schools. The structure of the PSAT is based on the components in the new primary school curriculum known as the Integrated Curriculum for Primary School (ICPS).
1.6.1 The New Primary School Curriculum

Table 1 shows the breakdown of subjects taught in national primary schools from 1983 until now.

Table 1
Subjects Taught in the Integrated Curriculum for Primary School
(Source: Education in Malaysia, 2000)

<table>
<thead>
<tr>
<th>DOMAINS</th>
<th>COMPONENTS</th>
<th>SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PHASE I</td>
<td>PHASE II</td>
</tr>
<tr>
<td></td>
<td>Standard 1 to Standard 3</td>
<td>Standard 4 to Standard 6</td>
</tr>
<tr>
<td>COMMUNICATION</td>
<td>Basic Skills: Reading, Writing, Speaking and</td>
<td>Bahasa Melayu English Language</td>
</tr>
<tr>
<td></td>
<td>Listening and Numeracy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Mathematics</td>
</tr>
<tr>
<td>MAN AND HIS ENVIRONMENT</td>
<td>Spiritual, Attitudes and Values</td>
<td>Islamic Religious Education</td>
</tr>
<tr>
<td></td>
<td>Humanities and Environment</td>
<td>Moral Education</td>
</tr>
<tr>
<td></td>
<td>Islamic Religious Education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moral Education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local Studies (combination of geography and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>history)</td>
<td></td>
</tr>
<tr>
<td>SELF-DEVELOPMENT</td>
<td>Living Skills</td>
<td>Living Skills</td>
</tr>
<tr>
<td></td>
<td>Arts and Recreation</td>
<td>Music Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Art Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health and Physical Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Co-curriculum</td>
<td>Compulsory involvement in sports, societies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and clubs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In 1982, the Ministry of Education piloted the new primary school curriculum in 302 Malaysian primary schools (www.moe.gov.my/english/kpm/reform.htm). This new curriculum was introduced as Kurikulum Bersepadu Sekolah Rendah (KBSR) or the Integrated Curriculum for Primary School (ICPS). It was implemented in stages beginning 1983 and by 1988, the ICPS was fully implemented nationwide. The aim of primary school education in Malaysia is:

"to ensure an overall, balanced and integrated development of an individual's potential which includes the intellectual, spiritual, emotional and physical aspects so as to produce balanced and harmonious citizens with high moral standards". (Education in Malaysia, 2000).

The following table illustrates the structure of the ICPS in terms of the subjects taught and the specific domains or aspects under which they belong as well as the components or skills they aim to develop.

Under the Communication domain, the emphasis is on the acquisition of the basic skills of reading, writing, and arithmetic skills. The specific goal is to ensure that all pupils are competent and proficient in the medium of instruction, as well as in three other subjects Bahasa Melayu, the English language and Mathematics.
At the beginning of the school year in January 2002, a revision was made on the ICPS. In line with Malaysia’s target to become a developed nation by the year 2020, the Ministry of Education is striving to emphasize the learning of Mathematics and Science. Where prior to this all subjects in the ICPS were taught through the medium of Bahasa Melayu, in January 2002, English language was made the medium of instruction for Mathematics and Science. This change was undertaken with the awareness that students would have to have a good command of English in order to access the Internet, read articles and research papers, and other scientific and mathematical literature published mainly in English. However, it is noted here that as the change in the ICPS was implemented after data has been collected for this current study, the issue will not be discussed further.

The specific objectives of the ICPS can be categorized into three main domains:

- Communication
- Man and His Environment
- Individual Self-development

Under the Communication domain the main concern is to develop literacy and numeracy skills. The specific goal is to ensure that all pupils are competent and proficient in oral and written Bahasa Melayu, English as a second language and arithmetic or numeracy skills.
The Man and His Environment domain aims at ensuring all pupils acknowledge the need for interest in and sensitivity towards the environment and understand how man and the environment complement each other. Special concern is given to the Malaysian environment and the country's multiracial population.

The aim of the third domain, Individual Self-development, is to provide opportunities for individuals to develop their personal talents and potentials and to inculcate interest in healthy recreational activities and aesthetics. This component includes art and craft, music, sports, commerce, business management and everyday living skills.

1.6.2 The Subjects Taught at School

As can be seen in Table 1, the ICPS is divided into two phases: Phase I for Standards 1 to 3, and Phase II for Standards 4 to 6. The emphasis of Phase I is on communication and arithmetic skills. In this phase, under the component of Man and His Environment, only Islamic Education for Muslim pupils and Moral Education for children of other faiths are taught. In Phase II, two additional subjects are introduced into the Man and His Environment component: Science and Local Studies. These two subjects cover the elements of science, geography, history, civics, health education, and related studies.
In the Self-Development component of Phase I, Music, Art and Physical Education are offered. In Phase II, Living Skills is introduced as a subject, which covers such elements as woodcraft, home economics, and commerce.

Co-curriculum activities include Scouts, Football Club, athletics, Science Club and Bahasa Melayu Society. Involvement in these activities, which are usually carried out after school hours, is compulsory for pupils in Standards 4, 5 and 6. Co-curriculum activities are meant to complement the academic curriculum in promoting the child's mental, physical, spiritual and social development.

1.6.3 Teaching Time Allocation

The teaching periods are the same in all government primary schools nationwide. In Phase I, there are 45 teaching periods of 30 minutes each per week. In Phase II, there are 48 teaching periods of 30 minutes each per week of five days. The allocation is illustrated in Table 2 on the following page.

The figures in Table 1 shows that 33.3% (about one third of the total contact hours are allocated to Bahasa Melayu lessons for Phase 1. The relatively large allocation of hours is to ensure that within the first three years of school, pupils will be sufficiently prepared in the mastery of literacy skills before moving on to the higher challenges of Phase II. In Phase II, the allocation is reduced to about 23%, whereby 17% of the remaining hours are given over to the two new subjects—Science and Local Studies.
### Table 2

**Time Allocation in the Integrated Curriculum for Primary School**  
(Source: Adapted from Education in Malaysia, 2000)

<table>
<thead>
<tr>
<th>Domain</th>
<th>TIME ALLOCATION PER WEEK</th>
<th>Phase I</th>
<th>Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contact Hours</td>
<td>No. of Periods</td>
<td>Contact hours/No. of Periods</td>
</tr>
<tr>
<td>Bahasa Melayu</td>
<td>75</td>
<td>15</td>
<td>55</td>
</tr>
<tr>
<td>English Language Mathematics</td>
<td>40</td>
<td>8</td>
<td>35</td>
</tr>
<tr>
<td>Man and His Environment</td>
<td>35</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Islamic Religious Education/Moral Education</td>
<td>-</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>Music</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Art</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Physical Education</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Co-Curriculum</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Assembly</td>
<td>5</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>225 hours/week</td>
<td>45 periods/week</td>
<td>240 hours</td>
</tr>
</tbody>
</table>

#### 1.6.4 Teaching Arrangements

The ICPS was designed to encourage the use of teaching methods aimed at providing pupils with the means to develop interest in all the school subjects and at giving continuous reinforcement to the pupils so they will be motivated to continue developing their interests. In contrast to the old teacher-centred method of teaching, which limited pupils' participation to listening and observing, the new curriculum is designed to be more learner-centred and to encourage active pupil participation. The ICPS recommended class size to be reduced to a more manageable size of 15 -20 pupils per class. However, in larger cities and more densely populated areas, class size still remains at around 50 pupils per class.
Together with the recommendation of smaller class size, the new curriculum also encouraged schools to alter the pupils' seating arrangement from one where the pupils sit facing the front of the classroom, to an arrangement that would allow for more group participation and cooperation. Teachers are encouraged to divide pupils into several small groups according to their levels of ability. They sit facing each other within their small groups. Grouping pupils according to ability is also recommended, as this would allow the teacher to assign tasks more suitable to the individual group's ability. This would be especially useful in large classes. At the same time, the mixed ability classes are paving the way for inclusive education, whereby pupils with different levels of ability would be taught together in one classroom.

Since the ICPS was designed to be pupil-centred and to foster peer teaching, whereby the better pupils are encouraged to help the weaker pupils with their lessons, schools are not recommended to stream pupils by ability. Nevertheless, many schools still preferred to stream pupils into classes based on their achievement in school-based assessments. This is contrary to putting pupils with different levels of achievement into mixed ability classes and grouping them by ability within those classes, as recommended by the ICPS. Teachers believe (personal communication) streaming pupils according to their ability is the better system compared to having mixed ability classes in which students are grouped according to their different ability within one class. Streaming by ability
encourages teachers to adjust lessons and materials according to pupils' respective level of ability and pace of learning.

1.6.5 Teacher Training and Education

Teacher training in Malaysia is the responsibility of teacher training colleges under the authority of the Ministry of Education. Candidates training to be primary school teachers have to study for a five-semester (2 1/2 years) Certificate in Teaching course. At the end of the course teacher trainees are required to complete one semester of school attachment for teaching practice.

While at college, co-curricular activities are compulsory for trainee teachers. The co-curricular activities provide teacher trainees with experience and knowledge in skills such as management and organization, coaching and training, and officiating and leadership; all useful for when they need to run co-curricular activities for their pupils later on. Once qualified, teachers can take up involvement in any of the three categories of school co-curricular activities: sports and games, clubs and societies, or uniformed bodies.

The teacher education curriculum consists of three basic components: the Core component, the School Subject component and the Self-Enrichment component (Ministry of Education, 2000). Table 3 lists the subjects taught under each component.
Table 3
Teacher Training Curriculum
(Source: Education in Malaysia, 2000)

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Component</td>
<td>Educational Psychology</td>
</tr>
<tr>
<td></td>
<td>Pedagogy</td>
</tr>
<tr>
<td></td>
<td>Education in Malaysia</td>
</tr>
<tr>
<td></td>
<td>Bahasa Melayu</td>
</tr>
<tr>
<td></td>
<td>English Language</td>
</tr>
<tr>
<td></td>
<td>Educational Technology</td>
</tr>
<tr>
<td></td>
<td>Islamic Religious Education/Moral Education</td>
</tr>
<tr>
<td></td>
<td>Islamic Civilization</td>
</tr>
<tr>
<td></td>
<td>Historical Development of Malaysia</td>
</tr>
<tr>
<td></td>
<td>General Education Service Matters</td>
</tr>
<tr>
<td>School Subject Component (pedagogy courses)</td>
<td>Mathematics</td>
</tr>
<tr>
<td></td>
<td>Man and His Environment</td>
</tr>
<tr>
<td></td>
<td>Moral Education</td>
</tr>
<tr>
<td></td>
<td>Physical Education</td>
</tr>
<tr>
<td></td>
<td>Music</td>
</tr>
<tr>
<td></td>
<td>Art</td>
</tr>
<tr>
<td>Self-Enrichment Component</td>
<td>Home Economics, Commerce</td>
</tr>
</tbody>
</table>

There is no indication in the teacher-training curriculum of skills relating to the identification or remediation of underachievers or poor learners. Nor are trainee teachers trained to identify or provide special programmes for pupils with reading difficulties or other learning difficulties. To be a specialist in these areas, a candidate would have to undergo a different course altogether, such as the Certificate in Special Education offered by the government controlled Specialist Teachers Training Colleges (www.moe.gov.my/-mpik/kursus.htm).
Therefore since it is not specified in the teacher-training curriculum, it is assumed that there is no specific component on assessment or testing taught. As assessment is a fundamental and very important aspect of teaching and learning, it might be better to offer it as a separate subject on its own rather than incorporated as part of the pedagogy components of individual subjects. According to Cummins (2000), inability to practise proper and effective assessment procedure would lead to inadequate provision of expertise for identification and remediation of poor performers. In the absence of sufficient information to advise proper and effective procedures of assessment, the risks of incorrect placement of pupils (if assessment is used for selection by ability) and incorrect remedial provision (if assessment is used for diagnosis of difficulties) are greater.

1.6.6 Enrichment and Remedial Programme

One of the responsibilities given to the Malaysian Ministry of Education is to eradicate illiteracy among Malaysians by the year 2020. Recognizing the fact that there were still pupils who were not able to read after six years of primary education, the enrichment and remedial reading programme was added to the ICPS in 1989.

The remedial programme is provided for pupils whose academic achievements have been "unsatisfactory" when compared to the average achievement level of
children in the same age group (www.unesco.org/wef/countryreports/Malaysia/rapport_1.html). The thrust of the remedial programme is reading, writing and arithmetic intervention. Under the remedial programme students are grouped separately based on their academic performance. Remedial teachers are encouraged to use simpler and more effective teaching methods as well as audio visual aids when teaching these pupils. The two subjects taught in the remedial programme are Bahasa Melayu and Mathematics. Due to shortage of teachers, schools are given the freedom to decide when to start the programme and who is to conduct the lessons, but the Ministry of Education has full control of the administration and nature of this programme. Usually one of the teaching staff will be elected by the headmaster/headmistress to be in charge of the remedial programme.

The discussion thus far has highlighted how changes in the sociolinguistic and educational environments in Malaysia have in many ways contributed towards the present academic achievements of primary schoolchildren. It is therefore the hope of this research to be able to make reliable recommendations towards a more effective way forward, where primary level education is concerned; one that could offer preventive or compensatory and inclusive measures for children left behind by the system.
1.7 Organization of the Remainder of the Thesis

Following the literature review in Chapter Two, Chapter Three will present the procedure employed in carrying out the preliminary study, the method of investigation used, the data and its analysis, the result and how it helped to determine, together with the information obtained from the literature review, the framework and instruments for the main study.

Chapter Four will present the methodology used to gather the data used in the main study and the analysis procedure applied to the data gathered.

The findings will be reported in three parts: Chapter Five will report the findings from the analysis of the pupils' examination results, Chapter Six will report the findings from the analysis of the data obtained from the questionnaires and Chapter Seven will report the findings from the logistic regression analysis. Finally Chapter Eight will conclude this report with a summary of the main findings, implications for the Malaysian academic world, and the recommendations for further research in this area.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This literature review will include a selection of studies related to poor academic performance and the available remediation in the Malaysian multilingual school environment. There are few studies referring directly to the situation in Malaysia, the bulk of the studies reviewed cover research conducted in other parts of the world. Nevertheless, this literature review will highlight findings from studies which have been carried out in other parts of the world that are in some ways related to or can shed light on the situation in Malaysia. More specifically, the literature reviewed in this chapter represents a selection of relevant findings that led to the development of the objectives and theoretical framework of this present study. This review will cover four interrelated areas that have been shown to affect performance—gender, ethnicity, home, school, and language-use, and socioeconomic status.

Determining the most effective and economical way to improve the achievement level of students is the concern of educationists and policy makers all over the world. An extensive amount of literature on the empirical relationship between schooling, its related influences and academic outcome has been generated out of this concern. The factors analyzed in these studies range from education
policy variables, school variables, home variables, and socioeconomic status to pupils' own cognitive and affective characteristics. More importantly, these studies have worked towards the identification of particular factors that have more significant influences on academic outcome than others.

When children perform poorly in school, many factors can be inferred. Since poor academic achievement is based on school assessment, the first point to start in the bid to understand pupils' failure to perform academically would be the school the child attends and the education philosophy the school practises. Schools play a significant role in enhancing the academic development of its pupils, including those who present with low achievement and behaviour problems. However, one of the milestone papers on factors influencing academic achievement of students in America, commonly known as the 1966 Coleman Report (as cited in Greenwald, Hedges and Laine, 1996), proposed a view that was regarded as controversial in its time. The Coleman Report identified family background factors rather than school factors as the primary variable in determining academic achievement. The controversy over this finding and its implication led other researchers to ascertain the extent to which family background factors affect academic achievement, and whether these factors do indeed have greater influence on academic achievement than school factors.
The following sections will therefore discuss theories, which have developed since the publication of the Coleman Report, encompassing those factors identified as influential in determining academic performance.

2.1 The Influence of School-related Factors on Academic Achievement

A useful source for early studies on school-related factors carried out in America and published between 1959 and 1977 can be found in a summary by Glasman and Biniaminov (1981). Of the thirty-three studies included in this summary, twenty used verbal, reading or mathematics achievement as the measure for cognitive outcome. Other cognitive outcomes used included composite academic achievement in various standardized tests of abstract reasoning. Thirteen studies focused on non-cognitive outcomes such as self-concept, locus of control and educational aspirations. In the absence of other standardized assessment tools, this current study will use the pupils' achievement in school-based assessments in the four main subjects—Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics, and Science as the measure of academic outcome.

In the 1990s, studies of academic achievement have looked for a correlation between the quality of schools and teachers and academic outcome; and whether these school factors were more useful variables than family background factors in explaining academic achievement. Greenwald, et al (1996) reviewed
sixty studies to assess the trend in the direction and magnitude of the relations between various school characteristics on academic achievement. They concluded that a broad range of school characteristics such as the quality of teacher training programmes, the availability of teaching materials, and smaller class size were positively related to academic outcomes. The effects were large enough to suggest spending more money on improving school resources to produce better academic outcomes.

In an earlier study, Hedges, Laine and Greenwald (1994) arrived at similar conclusions. They suggested that money spent on reducing class size and school size can produce positive effects on achievement. These studies recommended that Education Departments concerned should spend more money improving the quality of programmes for teacher trainees and opportunities for teachers to attend development courses relevant to their profession as these factors showed strong relations with student achievement.

Among the studies that provided evidence for the need to improve the quality of education through teacher development programmes is Huberman (1990) who suggests that schools should have a clear organizational structure to guide teachers as to how rules, procedures, instructions and communications in the school are to be carried out. This, according to Huberman, will in turn ensure that the schools will function at optimum level and be able to provide and maintain high-level performance amongst their students. In relation to this, Huberman
recommended that in order to improve the quality of education, it is important that education authorities take steps to improve the status and quality of teaching.

In a study carried out on Hong Kong schools, Cheng (1991) provided evidence to further support the theory that more money should be spent on the development of teachers' professionalism and on the improvement of school facilities. Cheng indicated that at the school level, principal's leadership, school organizational structure, and teacher's social norms are good predictors of school functioning and teacher performance.

Following that, Cheng (1996) suggested that teacher professionalism could ensure quality of teaching as well as educational outcomes. Analysis of this survey involving several schools in Hong Kong revealed that teachers' professionalism and job attitudes were positively related to enhancement of students' educational outcomes. Cheng (1996) further suggested that when teachers are able to display a professional code of ethics, students will have more positive concepts about themselves, be more willing to foster good relationships with their classmates, have more positive attitudes towards teachers, feel more loyalty to the school, enjoy school more and be more willing to work harder at learning.

Hanushek (1997) and Wenglinsky (1998) provided further support for the need to upgrade the teaching profession and educational programmes in order to
improve academic achievement among students. However, both authors proposed that the size of the school budget provided by the education authorities alone could not account for the variance in the quality of education provided by different schools. Both researchers believe that the most important factors that can raise school effectiveness are ones which individual schools have control over, such as using teachers, administrators and school funds to improve leadership values, raising academic expectations and aspirations, and creating a stable climate that is conducive for learning and fosters positive teacher-pupil relationships.

2.1.1 The Influence of Grouping by Ability on Academic Achievement

In the Malaysian education context, streaming pupils by ability refers to putting pupils of the same age into different groups or classrooms based on their performance in school-based assessments. Mixed-ability on the other hand refers to putting pupils of various levels of ability but of the same age group into one group or classroom. In Malaysian primary schools, streaming pupils by ability and putting them into different classrooms is common practice despite the fact that the Integrated Curriculum for Primary School advocates mixed-ability teaching. This practice negates the government's efforts to implement the practice of inclusive education, whereby children with diverse levels of ability, capabilities and needs are taught through one curriculum that is appropriate for all.
Studies in America comparing ability-grouped classes to heterogeneously grouped classes reviewed by Slavin (1990) concluded that the effects of ability grouping on academic achievement were essentially non-existent. A review of American-based studies by Kulik & Kulik (1992) revealed no significant effect on achievement among children studying in multilevel classes where the children of the same grade are divided into groups based on ability and instructed in separate classrooms for either a full day or for a single subject. However, the researchers found that, although the high achieving pupils benefited from grouping, there were no effects on the achievement levels of average and low achieving pupils. It can be deduced from the Kulik and Kulik (1992) findings that while there can be situations in which the teaching approach pupils who have no problems with learning, then using another approach designed for the teaching of children who have difficulties with learning, could potentially benefit the average and high-achieving pupils even more.

According to Ireson, Evans, Redmond, and Wedell (1992) there is some evidence in the U.K. that both primary and secondary head teachers who favour ability grouping and separate classes for pupils with difficulties in learning do so for practical reasons, whereas those who favour mixed ability teaching and the integration of pupils into mainstream classrooms tended to work on the principle that every child should have the rights to the same opportunities for learning.
In relation to that, Ireson and Hallam (1999) highlighted the risk of incorrect placement. Once placed in a poor learner group, movement to a good learner group will be difficult because the pupils concerned will continue to lag behind in the curriculum as teachers tend to slow down when teaching poor learners. Ireson and Hallam also noted that in the U.K. many inner city schools currently adopt mixed ability policies.

Meanwhile, Taylor (1993) found that if given the choice, teachers in the Midlands, U.K., generally prefer to teach the high performing pupils. Taylor goes on to report that teachers avoid teaching low achievers because of the pupils' negative attitude towards learning which makes it more difficult for them to carry out their duties as teachers. This echoes the teachers interviewed in this sample, who feel that having low achievers in their classrooms limits their ability to carry out some activities and slows down the pace of teaching (personal communication).

In the days prior to the implementation of the Integrated Curriculum for Primary School, Malaysian schools practiced streaming pupils' into classes based on ability. It would be common then, to have classes named according to level of ability (for example Standard 4A for excellent performers, Standard 4B for good performers, and so forth, with the last class, for example Standard 4D or 4E for the poor performers). The ICPS however, have eliminated this type of labeling but that does not mean the classrooms in Malaysian schools are not still streamed by ability.
2.1.2 The Influence of Assessment on Academic Achievement

An important aspect in any study of academic achievement is the assessment of achievement itself because this informs a variety of decisions concerning the academic progress of learners. Research evidence on how classroom assessment practices can either facilitate or inhibit learning suggests that teachers have to be clear about the purpose for assessing the pupils and then to find the most appropriate techniques to fulfill that purpose (Mavrommatis, 1997; Black and William, 1998). However, research also suggests that in practise, decisions teachers make concerning services provided to particular pupil in the classroom situation are often based on teachers’ intuition (Gipps, Brown, Swain, and MacAllister, 1995; Harlen and Qualter, 1991).

Many educators have begun to question the role of assessment in school improvement and the methods used to gauge student achievement and evaluate educational programmes. Some might even go so far as to claim that traditional measures have not been effective in assessing learning outcomes and thereby undermine curriculum, pedagogic, and policy decisions (Dietel, Herman and Knuth, 1991). What this implies is that good assessment procedures provide clear judgments of student achievement and this in turn enables students, teachers, school administrators and policymakers to make appropriate decisions.
Dietel, et al (1991) state that many groups of people within the educational system would find assessment necessary and that need would vary according to the different purposes assessment pose for them. Policymakers use assessment to monitor and set standards, and to formulate policies. School administrators use assessment to identify programme effectiveness so the programme can be improved accordingly. Teachers have to make grouping decisions, so they use assessment to monitor student progress, to diagnose and prescribe individual student needs and to determine grades. Parents and teachers, on the other hand, use assessment to school accountability and to make informed educational and career decisions.

Assessment may be defined as a method used to better understand the knowledge a student has currently acquired (Ebel and Frisbie, 1991). The concept of 'current' here suggests that the amount of knowledge a student possesses at any given time is constantly changing. Therefore assessments are often carried out at several points over a period of time and student achievement is usually based on comparisons made between these series of assessments.

Assessment may be defined as a method used to better understand the knowledge a student has currently acquired (Ebel and Frisbie, 1991). The concept of 'current' here suggests that the amount of knowledge a student possesses at any given time is constantly changing. Therefore assessments are
often carried out at several points over a period of time and student achievement is usually based on comparisons made between these series of assessments.

Without a doubt, there is a close relationship between assessment and teaching and because of the existence of such a relationship, it is important according to Airasian (1991) that the knowledge and skills assessed should match the teacher's educational objectives and pedagogic emphases. Airasian (1991) went on to suggest that a good assessment tool should include in its design, test items that represent the full range of knowledge and skills that has been taught and the teacher's expectations of student performance. It is also important to ensure that test items are phrased clearly so as not to confuse a student or confound his/her ability to demonstrate the knowledge and skills which are intended for assessment. For example, the UPSR Mathematics paper consists of two separate papers—Paper 1 comprises of items with multiple-choice answers, and for Paper 2 pupils are required to read and understand 'story' before they apply the appropriate mathematical procedure to solve the problem posed. Pupils who lack adequate reading and comprehension skills would be at risk of performing poorly in this paper. Therefore teachers should have the knowledge and the freedom to design alternative assessment tools for such pupils. Providing training and support for teachers to move in this direction is important especially since Malaysia is committed towards inclusive education.
Macintosh (1994) examined and compared the interaction between current conceptions and theories of assessment and assessment practices in 10 countries. Of particular interest was the nature of changing practice and theory in assessing learning achievements of students in elementary and secondary education, as well as the socio-cultural and technical factors that are associated with gaps between theory and practice. Findings indicated that across all 10 countries, assessment appeared to be more widely used for selection (so students could be identified by ability and grouped accordingly) than for diagnosing the students' weaknesses and remedial needs.

This is also the case in Malaysia. As indicated by the teachers interviewed in this current study, schools practise grouping as an administrative procedure to facilitate teaching and completion of the syllabus within the stipulated time. Pupils are streamed into groups according to their ability, which is gauged by their performance in school-based assessments. It does seem that schools are identifying pupils according to ability so that appropriate teaching methods can be administered. It is also to ensure that the pupils identified as most likely to obtain excellent results in the PSAT could be given sufficient and sometimes extra guidance in preparing for the examination. According to the teachers interviewed, there were no special programmes for the pupils who have been streamed into the poor learning groups, apart from teaching at a slower pace. It was not indicated by these teachers whether teaching poor learners at this slower pace benefits the pupils concerned and may be at a disadvantage.
because they might not have had sufficient instruction on some of the items included in the PSAT. In some ways, if the PSAT as a diagnostic tool, the structure of the examination papers to justify its use for assessing the poor learners' academic progress.

It has also been suggested in some studies that inadequate assessment training could be responsible for the lack of a structured implementation of assessment techniques in most primary schools internationally (McCallum, McCallister Brown, and Gipps, 1993; Airasian, 1991). This suggestion complements the recommendation forwarded by Mavrommatis (1997) that assessment approaches should be based on individual pupil's level of ability and amount of knowledge, but grouping by ability would not help the poor learners if they are grouped into one class and then not given the appropriate guidance they need.

Mavrommatis (1997) investigated how Greek primary school teachers (N = 216) carried out the four consecutive phases of assessment in the classroom and considered the impact of these practices on children's learning. The finding from this study suggested that in order to improve learning motivation, classroom assessment approaches should involve differentiated tasks, challenging but attainable goals, frequent collection of information on pupils' work and performance, and personal, specific feedback. In addition, these findings raised questions about the effect of teachers' limited competence in assessment of
children's progress and the rationale for not stressing it in teacher training when assessment is such a pervasive and fundamental part of teaching.

In addition to the school-related factors discussed above, low academic achievement among pupils in Malaysian schools has often been taken to be due to the pupils' poor reading skills. Therefore, it is also necessary for this study to discuss the issue of literacy and the steps the Malaysian Ministry of Education has taken to eradicate illiteracy among schoolchildren so as to improve pupils' learning and performance.

2.1.3 Literacy in Malaysia

'Literacy' as used by UNESCO refers to the ability to read and write with understanding. The Population and Housing Census (1991) revealed that literacy rate had reached 93.5% for Malaysians over 10 years of age. 'Literacy' in the UNESCO report was equated with the ability to read a letter or newspaper and write a simple letter (www.statistic.gov.my/english/pressdemo.htm).

Another survey, which was conducted by the Asian Development Bank in 1995, indicated that the adult (referring 'adult' as those aged 15 years and above) literacy rate amongst the male population was 89% and the literacy rate among the adult female population was 78% (www.abd.org/Poverty/Forum/papers.htm).
A UNESCO World Bank survey carried out by Frank, Small and Associates (1996) reported that based on a sample of 22,400 Malaysians aged 10 years and above, 93% were categorized as able to read with no significant differences across gender (Profil Membaca Rakyat, 1996 quoted in EFA 2000 Assessment). Although this survey was not conducted to specifically determine literacy, its finding was reported by UNESCO as a proxy indicator for literacy, since reading has a high degree of influence upon literacy.

Specifically, Frank and Associates used the criteria "has reading ability or can read; has at least had some form of informal education" as the proxy indicator for literacy and assumed that ability to read is already inclusive of ability to write.

According to the Malaysia Data Profile (2000), the illiteracy rate among Malaysians has steadily decreased since 1970 when it was recorded at 40% to 28% in 1980, 20% in 1990 and 12.5% in 2000 (devdata.worldbank.org/external/dgprofile.asp?RMDK=82). Ariffin (1994) reported that 2 million children in Malaysia under the age of 15 are unable to read. However, based on the figures they published in 2000, UNESCO went on to estimate the literacy rate to be at 87.5% in 2002, with 1.8 million of the population being illiterate (www.accu.or.jp/litdbase/policy/mys/National_Literacy_Policies/Malaysia). The Human Development Report (2002) also indicated an increase in the adult literacy rate (% ages 15 and above) at 88.7% (www.hdr.undp.org/statistics/data/cty/cty_f_mys.htm ).
No matter how small the percentage of illiteracy, the fact remains that within the Malaysian school system, there are children who are unable to read. Inability to read becomes a more serious issue when taken together with school performance. Studies of school performance in Malaysian have generally identified poor reading ability as the main cause for poor performance at school (Kamaruddin, 1995; Mok, 1994; Zalizan, 1982).

Based on findings from studies on the analysis of school performance, the Ministry of Education has recognized the need to address the problems faced by pupils who have been consistently failing in school-based assessments. Hence the introduction of school-based remedial reading programmes since 1989. Although progress in such programmes has been slow, recognizing the existence of children who find it difficult to learn how to read and taking steps to improve their literacy is the first step towards improving academic outcome. It is important for the children concerned that the responsible authorities establish proper identification and differentiation procedures so the specific difficulties related to learning could be addressed. This is particularly important in view of the fact that the UNESCO definition does not address the issue of performance and the small findings may be spurious in view of the fact that only proxy indicators were used.

The methodologies used in these UNESCO reports have brought to light the need for a more target-sensitive measure of literacy. In Malaysia, as in many
other developing and Third World countries, the issue may not be illiteracy at all but the quality and level of literacy. It is not clear in these reports as to how many of the children, identified by these studies "literate", possess the presupposed standard of literacy expected to perform the educational tasks.

2.1.4 Medium of Instruction

It has already been mentioned in section 1.5 of Chapter One that by 1975, all English language medium schools in Malaysia had been converted to Bahasa Melayu medium national schools. Children now have to acquire proficiency in Bahasa Melayu in order to attain academic competence. A child, who enters school with a home language other than Bahasa Melayu, is expected to naturally become a participating member of the academic community as he/she progresses through the school years and acquires the language of learning, while acquiring learning through the medium of that same language. It is expected that these children will be able to naturally acquire the language because they are practically "immersed" in the language as opportunities, outside and inside the school environment, to use, listen to and thus acquire the language are everywhere. Outside the school environment, Bahasa Melayu, both in its formal and informal forms, is used extensively in society and the media.
However, it has to be noted that whilst Bahasa Melayu has been established as the main language of communication in every field, the Malaysian linguistic environment also supports the maintenance of other ethnic mother tongues such as Tamil and Mandarin, as well as the use of English as a strong second language (see section 1.4.4 of Chapter One). For children who use languages other than Bahasa Melayu extensively in the home environment, finding a balance between the language spoken at home and the language spoken at school can be quite challenging. It is therefore important to address this issue and investigate the difficulties faced by children whose home language is other than the school language.

In order to help children perform better at school, it is necessary to understand both the conditions under which they are learning and the processes and strategies they use in learning. In the field of language teaching and learning, there has been no study on the effect of learning through the medium of Bahasa Melayu on academic outcome. Researchers have been more inclined to focus mainly on the issues related to the learning of English as a second language or the effect of having Bahasa Melayu as the medium of instruction on learners' English proficiency (Jamali, Rosli, and Ain, 1998; Tan, 1995; Jamali, 1992; Rajeswary, 1990). This is probably because the main reason for adopting Bahasa Melayu as the medium of instruction was based more on promoting racial integration than to improve academic outcome. Maybe due to delicate political implications, studies have not looked at the fact that although Bahasa
Melayu is the national language, it is still a second language to a large portion of the population. Even for the Malays themselves, the Bahasa Melayu spoken informally and the Bahasa Melayu used in school are two different forms of the language. The Bahasa Melayu spoken at home may be one of the many dialects of the language or it may be informally spoken interspersed with a lot of code switching with English or one or more of the other minority languages. At school, children have to listen, speak, read and write, and count in the formal form of the language. Teachers interviewed in the preliminary study of this study were clear that only formal Bahasa Melayu should be used in academic situations. The use of code switching, dialects, pidgin or other less standard forms of Bahasa Melayu, which can be helpful in comprehension and expression, are not encouraged at school, as observed in the district of Hulu Perak in one of the northern states of Malaysia (Aminah, 1996).

Whilst there is no evidence to show that Bahasa Melayu, the medium of instruction, has any negative influence on academic achievement, the inability of young Malaysians (in particular those who had gone through the Bahasa Melayu-medium education system) to compete with the rest of the world in the field of science and technology has been constantly debated and a cause for concern among educationists, policy makers and the country's leadership in general. This concern has persuaded the government to recently implement a change in the education policy. This is because, in spite of active efforts by all parties to promote and support the National Language Act (1967), through the use of
Bahasa Melayu as the medium of instruction, Malaysia has not been able to keep up with the rapid advancements within the English speaking parts of the world, especially in the field of science and technology. Realizing the importance of equipping the future workforce with relevant skills to face the challenges of a globalized world, the Malaysian government had to review the National Language Act (1967). Hence, after almost three decades of using Bahasa Melayu as the medium of instruction, the government announced that starting January 2003, Science is to be taught from Standard 1 onwards and that both Mathematics and Science will be taught in English.

The government's decision to teach Mathematics and Science in English is an indication that the Bahasa Melayu registers formulated and used in the teaching of Mathematics and Science at foundation levels in the past have not been able to provide pupils with adequate competence to pursue the more complex concepts in these subjects as taught at tertiary level. Since the collection of data for this study was completed before the implementation of teaching Mathematics and Science in English, this issue will not be included in its discussion. Nevertheless, references will be made in the ensuing section to issues relating to the use of content-specific academic registers in the teaching and learning of Mathematics and Science through the medium of Bahasa Melayu.
2.1.5 The Influence of Reading Ability on Academic Achievement

Although the ability to count is part of being literate, a major portion of it is reading ability. It would therefore be especially difficult for a child to achieve academic competence when his reading skill is underdeveloped. It would also be difficult for a child to acquire satisfactory reading skills if he has to acquire the skills through a language he is not competent in. Furthermore, difficulties in acquiring reading skills are often associated with learning difficulties (Crystal, 1998).

According to Crawley and Merritt (1996), the main aim of reading is to comprehend what the writer is trying to communicate through his writings. The comprehension of written texts requires abilities in word recognition plus extensive semantic knowledge. Crawley and Merritt further added that with a bilingual child, his mental processes might have stored more lexical and semantic knowledge in the home language than the second language. For this child, when translating and applying this knowledge to make sense of what is happening when performing academic related tasks, has to employ the higher mental processes to formulate, analyze and evaluate meaning (Crawley and Merritt, 1996). A child who has problems accessing these processes will have a difficult time accessing school knowledge. Furthermore, Gibbons and Lascar (1998) have also noted that the academic register used in specialized classroom
interaction may not parallel the home language register, making it difficult for the child to process information unless help is given.

Among schoolchildren, the teacher should be able to identify students suspected of having reading difficulties (Lloyd, Kauffman, Landrum and Roe, 1991). As these children progress further into their schooling, they begin to fall behind their peers in all school subjects. This is inevitable because as the able students gain new information through reading, those with reading difficulties have less access to new sources of information (Crystal, 1998).

These studies on reading ability have raised one common issue, that acquisition of knowledge and information provides the working material for intelligence. It might be common within schools to perceived children who have read less as having low intelligence. However, the lack of knowledge may be due to unavailability of books in a language the children are more proficient in. A child who has not yet developed sufficient competence in the school language may not be able to maximize the knowledge and the corollary cognitive development that comes with the availability and processing the working material that access to knowledge in school provides. If no help is provided, this child will continue to fall behind and may develop negative views of his own competence and may lose interest in learning. Schools may tend to blame the problem on the child rather than the system.
In Malaysia, Mok (1994) proposed that in general, Malaysian pupils with learning difficulties are those who have low intelligence and this condition is influenced by such factors as:

1. a curriculum that is unsuitable to the pupils' cognitive development;
2. teaching strategies and methods which are unsuitable to the pupils so that the pupils are unable to comprehend what is being taught;
3. uninteresting teaching aids that fail to attract pupils' interest in learning.

Mok (1994) further suggested that when pupils' lose interest, they would continue to fall behind in their learning because they cannot follow the lessons.

Kamaruddin (1993) placed reading as the most important academic skill because not only is reading skill used to measure and ensure academic success, it is the foundation for success in life. Kamaruddin (1993) proposed two factors influencing a pupil's reading achievement, the pupil himself and the reading material the pupil is exposed to; a child's ability to read depends on what the child has within him and what influences him. The mental cognition of a child can be influential in terms of the child's ability to receive learning, his linguistic skills, his experience and knowledge. From the psychological aspect, mental cognition will influence his interest to learn, his motivation and self-concept (Kamaruddin, 1993).
Another Malaysian researcher, Chua (1993), proposed that reading acquisition problems can be compounded if parents' and teachers' fail to identify early the learning problems the children face. These problems, according to Chua include:

1. minor hearing and vision problems;
2. low self-confidence due to poor psycho-motor coordination;
3. poor concentration;
4. poor memory and retention; and
5. ineffective communicative skills due to poor linguistic skills.

Chua (1993) went on to suggest that identification of these problems is crucial in designing suitable and effective remedial programmes for the children concerned.

Reading difficulties are sometimes linked to socioeconomic status. Tedesco (1990) suggested that in Malaysia there is a strong relation between illiteracy, poverty, unemployment, rural housing and the ethnic origins of a person. Therefore, Tedesco (1990) proposed that for Malaysia to win the war against illiteracy sufficient progress has first to be achieved in the fields of health, housing and employment.

The close association between reading and spelling indicates that children with spelling problems are likely to have reading problems and vice versa (Vinson,
1999). However, the reading, writing and spelling deficits in bilingual schoolchildren may not be associated with learning difficulties but due to lack of proficiency in the language used as medium of instruction (Abudarham and Hurd, 2002). The scope of this current study did not include identification of specific literacy skills so deficits in literacy will not be discussed further. However, a brief description of children with poor literacy skills will be included in the discussion chapter.

The literature review in this section suggests that learning difficulties, especially among children with dual language systems, may have been created by the way in which the curriculum is selected and taught and by the medium through which it is taught. Socioeconomic status has also been shown to have some influence in determining illiteracy rates; those who have not the ability to improve their social position, wealth and status may not be able to improve their literacy level. Whatever the case, where there are children with problems coping with learning, intervention in one form or another should be provided for them.

Hettinger and Knapp (2001) suggest that teachers can help struggling readers by helping them find reasons to read and teaching them about the purposes and processes of reading. These two researchers recommend that teachers make available a wide variety of engaging reading materials at varying reading levels available in the classroom. This, they contended, is very important especially for bright struggling readers whose interests and comprehension abilities may be
several grade levels above their decoding abilities. Hettinger and Knapp also suggest that struggling readers could access reading materials at or even above their grade level if teachers scaffold the texts for them by supporting their reading in various ways. One way would be through partner reading with more able readers. To encourage reading among struggling readers, after-school programmes involving volunteers among parents and peers would work better.

For struggling readers who are also struggling with writing, Zhang (2000) suggests that teachers encourage them to write stories or responses to stories they have read on the computer. According to Zhang word-processing programmes can relieve struggling readers from their anxieties about spelling and handwriting making them free to write with excitement and creativity.

Wong-Fillmore and Snow (2000) highlighted evidence from several U.S-based studies (Snow, Burns and Griffin, 1998; Barnett, 1995; Frede, 1995, Hart and Risley, 1995) that suggest high-quality early childhood education programmes for children from birth to age 5 can have long-lasting, positive consequences for children's success in school and later in life. Wong-Fillmore and Snow also highlighted the major finding from a study conducted by West, Denton, and Germino-Hauskin (2000) for the U. S. Department of Education on the skills and knowledge of a cohort of children at entrance to kindergarten which suggests that achievement gaps caused by social class and other group differences are already evident at the pre-kindergarten level. Based on these findings, Wong-
Fillmore and Snow (2000) discussed why early childhood teachers need thorough knowledge about language and how to help children develop language and literacy skills in the attempt to prevent later school failure. These are among the features that need to be incorporated into teacher training and re-training programmes in Malaysia. Instead of depending on trained remedial teachers to handle pupils' reading difficulties in separate classrooms, training programmes should equip regular teacher trainees with the relevant expertise in helping the pupils concern within an inclusive learning environment.

The government has taken steps to provide remedial education to children who have problems acquiring reading, writing and arithmetic skills whilst in primary school. Intervention provision for children who face difficulties in learning in the school environment takes the form of remedial reading programmes. The following section will review remedial education/reading intervention in the Malaysian context.

2.1.6 Remedial Education in Malaysia

As already mentioned in Chapter One, in Malaysia, remedial education was introduced into mainstream classrooms in 1965. Unfortunately, there is no available literature to document the remedial programme then. However, it can be deduced from the 1979 Cabinet Committee report that the remedial education programmes prior to the 1980s were inclusive programmes carried out by
general education teachers in the mainstream classrooms for the purpose of ameliorating problems in reading, spelling and arithmetic.

Since the introduction of remedial education, several researches have been carried out to further support its importance, to gauge its effectiveness and to improve its efficacy. In 1984, the Inspectorate of Schools carried out a survey on remedial teaching and learning of Standard 1 and Standard 2 pupils in 35 primary schools in two states—Kuala Lumpur and Selangor. Findings of the survey estimated that approximately 10% of Malaysian primary schoolchildren have literacy problems (Ministry of Education, 2000). The survey also revealed that the percentage of pupils performing below the passing grade in each of the classes in these 35 schools was between 10% and 20%. It was then decided that schools should have pullout remedial programmes to help pupils like these to overcome their literacy problems. The Head teacher is required to name one of their Standard 1 teachers to be in charge of the programme while the Ministry of Education will provide the training and tools.

Among the objectives of the Integrated Curriculum for Primary School is to ensure that children who entered school without attending kindergarten will by Standard 3 acquire similar level of literacy and numeracy skills as other children who entered school after attending kindergarten. It is therefore the role of the remedial education programme to ensure that this objective is met. The general
aims of the remedial programme in the Integrated Curriculum for Primary School (www.moe.gov.my/english/kpm/reform.htm) are:

1. To help the pupils overcome problems in acquiring learning skills
2. To help the pupil to change his/her negative behavior or attitude towards learning;
3. To develop self-confidence and positive attitude towards learning.

Koh (1992) suggested that the role of remedial education is to ameliorate learning problems among pupils so they would be able to catch up with the more able pupils in their age group. Furthermore, remedial education, Koh added, is provided for pupils who have been identified as low achievers or pupils who present unsatisfactory level of achievement when compared to the average achievement level of children in the same age group or when compared to the expected achievement level of children of the same school age. Koh further suggested that remedial teaching should be based on the following principles:

1. that poor learners can progress towards normal achievement if they are given the appropriate help.
2. that remedial teaching can help prevent the negative effects of academic failure.

Robiah (1992) similarly defined remedial education as teaching that is provided
• To help poor learners prevent themselves from continuously being left behind in the education process and
• To enable them to progress alongside and at the same level as their peer group.

In terms of procedures for the implementation of remedial programmes in Malaysian schools, Chua (1993) suggested the following steps:

1. identify the poor learner;
2. determine the specific type of learning difficulty the child faces;
3. find the cause of the identified problem;
4. determine the most appropriate remediation action;
5. carry out the pre-determined remediation action; and
6. evaluate the effectiveness of the remedial action taken after it has been carried out systematically.

Unfortunately to date, there has not been any studies that could provide feedback as to whether all or any of these steps had been used in the actual implementation of remedial programmes at the schools or how the steps were carried out.

However, the setting up of remedial programmes, although highly recommended had not been made compulsory by the Ministry. Some schools have not been able to start the programme due to shortage of staff. As it is about twenty years after the implementation of the remedial programme, one objective of this current
study was to develop a checklist containing factors that can be used to characterize a poor learner and to obtain, within the school sample, the current percentage of pupils with literacy and numeracy problems who are performing below the passing grade. One of the other objectives of this study is to investigate the extent to which remedial programmes are implemented at the primary school level.

Khadijah and Zalizan (1994) in their study on remedial needs of Malaysian schoolchildren reported that in a total population of 20,850 children aged 7 to 9 years old, 12.86% (2,682) had been identified by teachers as experiencing some form of literacy-related learning problem. From a sample of 2,042 children identified as having learning problems, 35.3% (720) were Standard 1 children, 35.5% (724) Standard 2 and 29.3% (598) Standard 3 children.

What was implied in this study is that a large proportion of children enter primary school with no or low level of literacy skills and would show improvement only after two years of schooling. Based on this finding, this current study focused on the academic performance, obtaining a longitudinal profile of a group of pupils over three years from 1998, when they were in Standard 4 to 2000, when they were in Standard 6 and at the point of entry into secondary school. The data obtained revealed information on whether older children, based on the patterns in their academic performance, still have difficulties acquiring academic
competence after three years of primary school study, and whether pupils’ performance improved as they moved further into the educational levels.

The findings of the study by Khadijah and Zalizan (1994) indicated that in the acquisition of early learning skills, the problem is most serious in two areas—word recognition (42.5%) and following instructions (67.9%). An interesting although expected finding of this study was that pupils who have reading acquisition difficulties are also as pupils who failed to achieve the level of academic performance that was comparable to the performance level achieved by their more able peers. These are the pupils who should be provided with reading intervention programme.

Asmee (1994) suggests that a remedial pupil with poor reading skills should not be made to feel alienated from mainstream children. It is important then that the lesson content of remedial classes be relatively similar to that of mainstream teaching to ensure that the poor learners do not get left behind in the curriculum. However, when the focus of remedial programmes in Malaysian schools is on reading intervention, it is unlikely for the remedial lesson content to be similar to that of mainstream teaching. When this is the case, poor learners may remain at the lower end of the academic achievement scale even after they have improved their reading skills because they had missed so much of the curriculum. This argument should be the basis for supporting inclusive education in the Malaysian
context. Segregation is clearly not beneficial for poor learners even if it is just partial segregation as practiced in the schools in the sample.

Finally, the remedial class consists of pupils who differ from each other not only in the problems they have but also in their ability to cope with their problems. They may also come from different socioeconomic background and learning experience. In addition to that they may have different linguistic backgrounds and proficiency levels. Therefore it would not be suitable to depend on only one standard remedial teaching methodology. In some cases the children may have more severe learning difficulties. These children may need more than just remedial education. As the difficulties they face may sometimes be compounded by learning disabilities, these children may require more than just remedial education to address their special needs.

In Malaysia, special educational needs have been included in the school curriculum from before independence. It began with the educational provision for children with visual and hearing disabilities. By 1988, Malaysian schools began to provide educational opportunities for children with special needs to obtain their education in mainstream schools (Faridah, 2000). Currently most special needs teaching are carried out outside of the regular classrooms. However, special needs education does not need to be separate from the regular classrooms. With some adjustments to the curriculum, children with different abilities could benefit from learning in a situation where tolerance and sensitivity to
individualism can be carried out. As more children with disabilities chose to be enrolled in mainstream schools, it is crucial that responsible authorities take a serious look at how the special education programme can be incorporated into the regular school programme.

2.1.7 Special Education in Malaysia

By 1995, both remedial and special education programmes were made available in Malaysian schools (Faridah, 2000). The difference between the two programmes was that remedial programmes catered for children who have difficulties acquiring basic literacy skills. The Education Act of 1996 had further defined children with special needs as those with visual, hearing and learning disabilities. Therefore, special education programmes were set up to provide education for children whose special needs are due to learning disabilities, and who have been categorized by a medical officer as, although “educable”, are unable to cope with learning in mainstream classrooms. The 1996 Education Act defined children with learning disabilities as children with:

- Down’s Syndrome,
- Autism,
- Cognitive disabilities,
- Behavioural and emotional difficulties,
- Health problems, and
- Speech and language difficulties (Faridah, 2000).
Therefore, remedial programmes are run as part of the mainstream education system, and special education classes, although sometimes placed within a mainstream school compound, are run as separate from the mainstream system. It is whilst the two programmes were running in the 1990s that the Ministry of Education began to realized that children with special needs have been unrightfully deprived of equal educational opportunities in mainstream classrooms. As such, education of children with special needs is beginning to look towards inclusion rather than segregation from mainstream classrooms.

2.1.8 Inclusive Education in Malaysia

In June 1994, at the World Conference on Special Needs Education in Salamanca, Spain, representatives of 92 countries, including Malaysia, agreed to work towards making inclusive education the norm in planning education programmes for all disabled children. The Salamanca Framework for Action works on the guiding principle that regular schools should provide education for all children, regardless of their physical, intellectual, social, emotional, and linguistic deficits (The UNESCO Salamanca Statement, 1994).

Based on the Salamanca Statement (1994), the Malaysian Ministry of Education identified the following as the main aims of inclusive education in Malaysia:

- To facilitate learning social skills necessary for interacting appropriately in society,
- To develop positive self-esteem for acceptance in an able-bodied world, and
- To share available resources in regular classrooms (Ministry of Education, 1994 cited in Faridah, 2000).

Malaysia's concept of inclusive education might not at the moment be in line with the concept of inclusion proposed by the Salamanca Statement (1994) but it is one that is practicable. Only those who have been diagnosed as able to cope with mainstream learning are included in mainstream classroom. However, inclusion in Malaysia is not total inclusion but more functional inclusion. Two types of inclusion are currently in place in Malaysian schools:

1) Full inclusion where special educational needs children are fully placed in mainstream classes.

2) Partial inclusion where special educational children are placed in mainstream classes only for certain subjects.

According to Lynch (1994), inclusive primary education is the best option for ensuring universal education for all children in Asian countries where school enrollment rates are below 70% in some countries and where most disabled children are deprived of basic educational opportunities. However, inclusive education is a new, and still seen as radical, move amongst educationists in Malaysia. There is still confusion as to how it can be fully implemented. Inclusive education basically means having to move from the old ways where
there is a clear division between the responsibilities of the mainstream teacher and those of the special education teacher. In its place, both the mainstream and special education teachers must collaborate in providing instruction and services to children with learning disabilities and difficulties (Faridah, 2000).

Although Lynch (1994) says that movement towards inclusive primary education are in place in all fifteen countries surveyed, twenty years after the 1994 Salamanca Statement, many primary schools in Malaysia are still practicing the 'old way'—the segregation way. This old way is reflected in the Malaysian Ministry of Education's official Web page (www.moe.gov.my) where Special Education primary schools and Combined Special Education primary schools are listed as among the different types of schools available in the country. Special Education schools are stand-alone schools catering for the disabled population. Combined special education schools are schools that have both regular and special education classes within the same compound but administrating separate curriculums respectively.

According to Zalizan (2000), a successful switch to inclusive education in Malaysian schools depends primarily on the readiness and ability of the school heads to ease and to manage the inevitable confusion and problems faced by both mainstream and special education teachers as they assume different roles when making the transition from segregation to inclusion. Success also depends on teachers' acceptance of the new roles they are expected to play. With
inclusive education, mainstream teachers have to adjust the curriculum and the approach to teaching it in order to encourage learning appropriate to the capabilities and needs of a wider range of children.

Zalizan (2000) suggests that the dominant perspective among mainstream teachers is that inclusion means, the disabled pupils eligible for mainstream instruction are expected to perform according to the demands of the mainstream classrooms. However, mainstream teachers may not have been given sufficient training to support the needs of the disabled pupils. Yet, because they are trained teachers nonetheless, they are given the autonomy to handle the education of the disabled pupils the best way they can, which may not necessarily be the most effective way. Special education teachers, on the other hand, may consider themselves, not the mainstream teachers, as the specialists in educating pupils with learning disabilities. Therefore, although Malaysia agrees that the way forward in terms of providing education for all is through inclusion rather than through segregation, there is a clear unreadiness to do away with special education classes completely; and although collaborative teaching between mainstream and special education teachers looks like the best model, teachers are still unsure of what their separate roles are in this collaboration.

Lynch (1994) argues that children with special education needs can be successfully integrated into the inclusive system and at a less expensive cost. At present, the national policy on inclusive education is to increase the
involvement of children with mild disabilities in mainstream classroom, while at the same time keeping the option of providing special education to pupils whose 'educability' level is low. Zalizan (2000) concludes that collaboration between mainstream and special education teachers cannot be expected until the boundaries between the roles of these two sides can be made clear.

2.2 The Influence of Pupil Factors on Academic Achievement

Where the studies discussed above focused on improving school organizational structures and teacher professionalism, there were also studies in the literature that focused on the need to improve the pupil's attitude towards learning. Student background and home characteristics were included in all thirty-three studies reviewed by Glasman and Biniaminov (1981). Most of the studies reviewed used multiple regression analysis to identify variables such as student background characteristics, school-related student characteristics and student attitudes, as having influence on academic outcome. The strong effects of these variables on academic outcome were consistent in most findings. These characteristics were:

- Family size (large families were found to have a negative effect in seven out of eight studies);
- Family income (high income was found to have a positive effect in five out of five studies);
• Family occupational status (high status was found to have had a positive effect in seven out of thirteen studies);
• Family possession (wealth had a positive effect in five out of five studies);
• Parental educational attainment (high education among parents was shown to have had a positive effect in nine out of thirteen studies)
• Family educational environment (that is the accessibility of books, computers, reading culture, motivation, encouragement and aspiration had a positive effect in four out of four studies).

A majority of these early studies reviewed by Glasman and Biniaminov supported the main finding of the historical Coleman Report (1966)—that student background characteristics had a greater influence on academic outcome than did school characteristics.

Leong et al, (1990) identified pupil's self-esteem, educational aspirations and self-improvement of knowledge as the major school factors that could predict academic achievement among Malaysian schoolchildren. In Hong Kong, Cheng and Ng (1991) and Cheng (1993) have also shown that pupils' self-concept and their attitudes towards peers, teachers, school and learning are strong affective indicators of educational outcomes among pupils, while still maintaining that teachers' leadership and effective classroom management are powerful indicators of the efficiency of the educational programme at classroom level.
Other studies looked at the effects of pupil attendance, amount of homework, and pupil effort on schoolwork on their academic achievement. Caldas (1993) provided evidence that attendance is positively and significantly related to pupil performance. In support of the Caldas (1993) finding, Lamdin (1996) recommended the inclusion of pupil attendance as an independent variable in the correlation formula based on his hypothesis that higher attendance at the individual or aggregate level would be associated with a higher pupil performance. Lamdin (1996) indicated that an average level of attendance at school had a positive influence on academic performance.

However, Lamdin (1996) cautioned that his finding was based on data for attendance aggregated at the school level—whereby pupils' attendance was calculated in terms of the whole school's unit of attendance and then its relationship with academic performance was measured. If attendance was aggregated at the individual level whereby each pupil's unit of attendance was counted individually and then observed for their pattern and degree of relationship with their respective academic performance, the same positive relationship may not be obtained.

Cooper, Lindsay, Nye, and Greathouse (1998) carried out a correlation study between the amount of homework assigned to pupils and the influence it has on pupils' academic achievement. Their findings indicated a positive but not significant relationship between amount of homework and pupil achievement.
This study suggested that the benefits of homework for young children may not be immediate but exists nonetheless. The researchers concluded that homework helps young children develop good study habits that can over time influence achievement level.

Following the research literature on the influence of pupils' attitude on their academic achievement, Brookhart (1998) looked at the correlation between school-based achievement and the pupils' perception of their own abilities to meet the performance standards set. Performance standards were taken in this study to be the standards of work habits set by teachers, parents or peers, and effort was calculated as a composite measure of time spent doing homework and pupil-chosen applications to their studies. Although the result of this study indicated that performance standards set by parents had a negative effect on achievement in school-based assessments, they had a positive effect on pupil effort. What was implied in the finding was that pupils' positive perception of their ability to meet teachers', parents', and peers' performance standards produced positive effects on their effort. Brookhart (1998) went on to suggest that when pupils carried on putting in effort to meet performance standards, over time they will produce improvements in their performance.

In a different study on pupil attitude, Gipps & Unstill (1998), using seven and eight year olds in London schools as sample, measured the pupils' perception of school success and failure in terms of the roles played by their effort, ability and
the teacher. The children in this study did see the teacher as having a role in success and failure. The findings also indicated that the children's effort (for example in completing homework, doing independent study and revising lessons at home) rather than their ability plays a greater role in influencing success at school. However, Gipps and Unstill cautioned against the belief that a focus on children's effort is all that is required in classrooms as it would not be sufficient to encourage persistence towards progress. These researchers went on to suggest that the child who tries hard and fails regularly in a competitive environment is likely to cease trying and to lower their goals in order to protect their self esteem and hence continue to operate as a low achieving pupil.

Weiner (1994) observed that in schools (across time and across cultures), pupils who are low in ability but try hard are very highly evaluated, especially when they succeed. On the other hand, Weiner also observed that pupils who are high in ability but do not put in effort are most negatively evaluated, especially when they fail. Supporting evidence from other parts of the world for Weiner's observation can be found in some studies carried out in France (Broadfoot, Osborn, Gilly and Brucher, 1993), Taiwan (Reynolds and Farrell, 1996), and Hong Kong (Watkins and Biggs, 1996). These studies arrived at basically similar conclusions — that the school culture in most parts of the world is such that if the teachers stand by their belief that all pupils have the ability to master the material to be learnt, then all the pupils need to do is to put in the effort equivalent to the commitment put in by their teachers.
It has also been suggested in an earlier study by Ames (1992) that in order to enhance children's commitment to effort and effort-based strategies, teachers need to focus on individual pupil's improvement, progress and mastery levels, and assessments of these should be private and not made public. Ames also encouraged teachers not to put too much emphasis on performance in assessments; rather they should recognize and acknowledge pupils' effort. What would be more important in encouraging learning is for teachers to provide opportunities for the pupils to improve and to inculcate in the pupils the ability to view mistakes as part of learning. Ames argued that classrooms in which the teachers practise the above strategies tend to have motivational patterns which focus on effort and learning, produce attributions to effort and effort-based strategies, promote failure tolerance leading to a mastery-oriented approach, which encourages learning, or mastery, goals and persistence in the face of failure.

All these features could be inculcated in an inclusive educational environment. In a classroom where children of diverse range of abilities and knowledge do their learning, children can be encourage to help and spur each on, to be sensitive to the limitations of others, and to value the opportunity for education as the right for all.
2.2.1 The Influence of Gender on Academic Achievement

There is ample research evidence to suggest that boys, on average, perform at significantly lower levels than girls on all cognitive aspects of curriculum throughout their primary and secondary schooling (Cassidy, 1999; MacDonald, Saunders, and Benfield, 1999; Carvel, 1998; Dean, 1998; Arnold, 1997; Millard, 1997).

In other similar studies, it was established that compared to girls, boys

- are more likely to be at 'risk' of academic achievement, especially in literacy because boys have been found to be significantly 'disengaged' with schooling (Hinshaw, 1992; Browne & Fletcher, 1995; Rowe, 1997, 1998, 1999; Epstein, Elwood, Hey, and Maw, 1998; Irvine, 1999; MacDonald et al, 1999; Fletcher, Hartman, and Brown, 1999);
- often exhibit behavioural problems such as being anti-social, inattentive, and restless both in class and at home (Hinshaw, 1994; Barkley, 1996; Hill & Rowe, 1996);
- constitute between 75-85% of those children (in the early years of schooling) identified as 'at-risk' of poor achievement progress in literacy (Rowe, 1999, 2000).

In brief, the research evidence suggests that throughout the entire duration of their schooling for a large proportion of boys, the verbal reasoning requirements
and general literacy demands of school curricula and assessment are beyond both their developmental capacity and normative socialization experiences to cope successfully.

Bray, Gardner, and Parsons (1997) on the other hand, suggest that a key socialization factor contributing to boys' literacy underachievement compared with girls' is their relative reluctance to read. Bray et al (1997) identified the increasing prevalence of video and computer use of boys as being particularly erosive to boys' propensity to read, and that there are major differences in girls' and boys' patterns and quality of interpersonal communication among their peers. That is, girls are more likely to have social lives that revolve around verbal discussion and communication, whereas boys were more likely to have socialization experiences that revolve around play. In commenting on these phenomena, Mac Donald et al (1999) observed that the increasing use of solitary computer games, more favoured by boys than girls, could only exacerbate these differences.

In Malaysia, Aziz (1989) studied the relationship between pupil background and academic achievement among primary schoolchildren in rural Peninsular Malaysia and found that in any form of academic performance, including language mastery, girls outperformed boys. According to him, this was because girls were generally more efficient and tended to be more attentive in the classroom. However, this view was disputed by Nuraihan (1997), who studied
the determinants of mathematics achievement among Form Four students in a
different rural district, Hulu Perak, Malaysia. She found that gender was not a
significant determining factor in influencing students' academic performance.
Her study showed the academic performance of male and female students to be
almost equal, and in certain situations, the performance of the male students in
class tests was found to be better than that of the female students. This finding
is similar to that of Sherman (1980) who found no significant differences in the
performance of boys and girls in achieving high scores on class tests and
examinations.

What should be taken into account here is that the sample in each of these
studies differed in terms of age of sample and location where the research was
focused on secondary schoolchildren. Whilst both Aziz and Nuraihan had
undertaken their research in Malaysia, Sherman (1980), on the hand, carried out
his study in the U.S. Therefore, in terms of pupil background factor, it is not just
gender that could be an issue; age and differing developmental rate among boys
and girls exposed to different school and home cultures, at different phases of
their lives, could also influence their ability to perform particular academic tasks.

The statistics on Malaysia's primary schoolchildren's performance in the
Standard 6 PSAT indicated that girls surpassed boys in Bahasa Melayu Reading
and Writing, Mathematics and Science throughout the period from 1994 through
These figures support findings by Dunn (1994) and Riddel (1992) that among primary schoolchildren, girls tend to perform better than boys in literacy as well as numeracy.

Studies conducted on academic achievement among pupils from different gender groups found significant differences in the language proficiency and achievement between girls and boys. According to Dunn (1994), girls find it easier to learn and use second languages as compared to boys. However, Riddel (1992) notices that girls are much faster in learning languages during primary school but become much slower as compared to boys when they are in secondary school. This finding explains, to some extent, Aziz's (1989) and Nuraihan's (1997) findings mentioned above.

Available literature also reveals a number of theoretical and empirical studies that provide evidence to suggest that the home environment, especially parental involvement, also plays an important role in academic achievement (Wadsworth, 1994).

2.3 The Influence of Parental Involvement on Academic Achievement

Just as parents should be aware of the problems the child may be experiencing at school, teachers should also be informed of the problems the child is facing at
However, often schools are left with the task of providing emotional and material support to pupils whose parents or home environment are unable to meet those needs. Study findings have often associated poorer academic achievement with children from low socioeconomic backgrounds (Crane, 1996; Caldas and Bankston, 1997). These same researchers have also observed that generally positive parental involvement is associated with high-income backgrounds and lack of parental involvement with families from low-income background. Findings from studies by Leong et al, (1990) and Merttens, (1993) support the theory that lack of parental involvement is one of the causes of poor academic achievement.

Based on the studies reviewed in this section, parental involvement can be expressed in a variety of ways. Parents can get involved by showing interest in how their children are faring in school through attending Parent-Teacher meetings and other school activities. Parents can also show concern and interest in their children’s education by providing their children with opportunities to learn at home. And where parents cannot afford to provide material things, they can provide emotional support and encouragement as well as inculcate positive learning habits and high educational aspirations. Whichever way parental involvement is expressed, its importance in enhancing the home environment into one that is stable and conducive for learning is undeniable.
Sampson-Malone (1985) investigated the influence of socioeconomic status (parents' educational level, occupation, and income) and family culture (parents' educational aspirations for their children, self-esteem, locus of control, social participation, and reading habits) on academic achievement. The results showed that both socioeconomic status and family culture were good predictors of academic achievement.

Similarly Leong et al (1990) carried out correlational analysis between parental involvement (as measured by parental educational and occupational aspirations for their children) and academic achievement. They concluded that children whose parents hold positive educational and occupational aspirations for their children and who also encouraged their children to have positive aspirations tended to do better academically than children from homes where there was no academic aspiration and encouragement.

In an American study on the relationship between parental involvement and academic achievement Tiederman and Faber (1992) discovered that the mother's involvement in the child's academic development had a greater influence on academic achievement than the father's involvement. In their study, Tiederman and Faber, used composite measures of maternal support (helping with schoolwork, involvement in PTA meetings and activities, and organizing or volunteering for educational field trips) and maternal severity (organizing study and play time, punishment or discussing bad behaviour or poor school grades
with the child) as the independent variable and academic achievement as the outcome variable in the regression equation.

Stevenson and Stigler (1992) based their study on a cross-cultural sample consisting of American, Chinese and Japanese children in America. Their observation indicated that Asian mothers, in comparison with American mothers, demonstrated a more active involvement in their children's education; and Asian children performed better at mathematics assessments than did the American children. This led Stevenson and Stigler to conclude that positive and active parent involvement does help improve academic achievement.

Leong, et al (1990) found similar results amongst Malaysian parents. Among the three main ethnic groups (Malay, Chinese and Indians) included in the Leong, et al (1990) study, Chinese parents were observed to be the most involved in their children's education and that in national schools, the best students consisted of mainly Chinese. Based on the findings of these two studies, this current study has taken steps to investigate the influence of parental involvement and ethnicity on academic achievement.

Hart and Risley (1995) in their longitudinal study on parent involvement in terms of parent-child talk and interaction when children were infants (10 to 36 months old) revealed positive effects on academic achievement when the children reached the ages of 9 and 10 years old. Based on their general findings, they
concluded that when parent-child interaction was limited and negative, or the parent was too critical of the child, the child developed little sense of academic achievement and was therefore less likely to want to please the parent by doing well in school. It was also observed in this study that professional parents provided the highest levels of parent-infant interaction, while parents on welfare provided the lowest.

Therefore, this current study was designed to enable comparisons to be made between the academic performance of pupils from low socioeconomic status family background whose parents are not very involved with their education and the academic performance of pupils from high socioeconomic status family background whose parents participate actively in their education to see if these factors also played a key role in the (non) achievement of Malaysian children.

The findings from Zellman and Waterman (1998) further confirmed the positive impact of parents' school involvement on children's academic achievement. Their findings indicate that the positive relationship is more obvious in the presence of parent enthusiasm and positive parenting style in comparison to just helping with homework or helping at school. Zellman and Waterman defined parent enthusiasm and good parenting style as parents' commitment to the child and to the parenting role.
Bhattacharya (2000) examined the school adjustment process of 75 South Asian children who had immigrated to the United States with their parents and who had below-average grades. His findings revealed that the low level of proficiency in English was a critical factor influencing low achievement and school failure. Bhattacharya concluded that parental encouragement to succeed, in conjunction with teachers' efforts, could be used to facilitate children's adjustment to the school and hence motivate the children to put in more effort at improving their English proficiency leading to improvement in academic performance.

However, Fantuzzo, Davis and Ginsburg (1995) commented that it could be difficult to promote parental involvement as a means of aiding children because parental involvement is a relatively complex construct that includes a wide variety of parental behaviour. Kerbow and Bernhardt (1993), for example, found that Asian American parents focused their involvement more on providing outside school stimulation for their children such as music lessons and discussions about schoolwork at home. African American parents, on the other hand, preferred to provide within school involvement such as school projects and field trips. Parental involvement therefore, can be perceived differently and should be discussed with careful consideration.

The implication gathered from this section of the literature is that parental involvement in their children's education, especially when poor pupil achievement is likely, is undeniably important. However, this researcher is aware that there
would be cases of good academic performance on the part of the child even in the absence of parental involvement, depending on the child's ability to deal with such shortcomings. This researcher is also aware that, more important to the analysis is not so much the presence or absence of parental involvement but the kind of involvement and the degree or frequency of involvement. It may well be the case that too much parental involvement might result in too much parental control that can stifle the child's development (Casanova, 1996). As such this current study will investigate the extent to which parental involvement within the different ethnic groups influences academic achievement.

Features in local newspapers, magazines and television have highlighted the view that most Malaysian parents and teachers feel that children who watch too much television jeopardize their academic success. In a study by Grinder (1990) the issue of television viewing habits among schoolchildren in the U.S. was examined from two perspectives: (1) to determine the magnitude and direction of the relationship between the number of minutes of television viewed by subjects and two measures of their academic success: standardized test scores and grade point averages; (2) to ascertain if children in different ability and achievement groups choose to watch different categories of television programmes. The correlations computed to address the first perspective of this study were mixed. The hypothesis that television viewing is negatively related to the grade point averages of subjects was not supported by the data. However, the hypothesis that television viewing is negatively related to standardized test
scores was supported. Analysis of the data collected in conjunction with the second perspective revealed that subjects assigned to low achievement and ability groups not only tended to watch more television than their high group peers but also selected different categories of programmes for viewing.

It is a common discussion among Malaysian parents whether they should exercise some control over the amount and kind of television programmes their children should watch. This current study had adapted Grinder's (1990) two perspectives on television viewing into its framework to find out if Malaysian parents were right in believing that too much television affects children's academic performance. Similar to what has been done in Grinder (1990) this current study investigated the relationship between television viewing and academic performance from two perspectives: what the pattern and strength of the relationship between (a) amount of television viewing and academic performance and (b) kinds of programmes watched and academic performance was.

Socioeconomic factors in many ways are closely related to home factors. In most studies, socio-economic status refers to the family's social status within the community it lives in. Social status in this sense can be taken to be the level of family income, parental educational attainment and occupation. The index of socioeconomic status can be measured as these three factors together or separately. The method used for the measurement of socioeconomic status in
this current study will be discussed in detail in Chapter Four. The following section will review studies that look at the influence of socioeconomic status on academic achievement.

2.4 The Influence of Socioeconomic Factors on Academic Achievement

Poor academic achievement is frequently associated with the family's low socioeconomic background. According to Bidwell and Vander May (1999), a family's socioeconomic status is based on family income, parental educational attainment, parental occupation and social status in the community they live and work in. Families with high socioeconomic status often have more success in preparing their children for school because they typically have access to a wide range of resources to promote and support their children's development. They are able to provide their children with high quality childcare, books and toys to encourage various learning activities at home. Also, they have easy access to information regarding health, as well as the social, emotional and cognitive needs of their children. In addition families with high socioeconomic status often seek out information to help them better prepare their children for school.

Crinic and Lamberty (1994) discuss the impact of socioeconomic status on children's readiness for school. They point out that the segregating nature of social class, ethnicity, and race might well reduce the variety of enriching experiences thought to be prerequisites for creating readiness to learn among
children. It was pointed out in this study that social class, ethnicity, and race entail a set of criteria that dictate neighbourhood, housing, and access to resources that affect enrichment or deprivation as well as the acquisition of specific value systems.

Similarly, Ramey and Ramey (1994) describe the relationship of family socioeconomic status to children's readiness for school. They state that across all socioeconomic groups in America, parents face major challenges when it comes to providing optimal care and education for their children. For families in poverty, these challenges can be formidable. When basic necessities are lacking, parents place top priority on housing, food, clothing and health care. Educational toys, games and books may appear to be luxuries and parents may not have the time, energy, or knowledge to find innovative and less expensive ways to foster young children's development. Even in families with above average incomes, parents often lack the time and energy to invest fully in their children's preparation for school, and they sometimes face a limited array of options for high-quality child care, both before their children start school and during the early years of school.

On the other hand, Ramey and Ramey (1994) show that families with low socioeconomic status often lack the financial, social, and educational supports that characterize families with high socioeconomic status. Furthermore, these researchers observe that poor families might have inadequate or limited access
to community resources that promote and support children's development and school readiness. Poor parents might also have inadequate skills for such activities as reading to and with their children, and they might lack information about health and nutrition.

In yet another study, Zill, Collins, West, and Germino-Hausken (1995) suggest that low maternal education and minority-language status were most consistently associated with fewer signs of emerging literacy and greater number of difficulties in preschoolers. What this study implied was that having inadequate resources and limited access to available resources could negatively affect families' decisions regarding their young children's development and learning. As a result, children from families with low socioeconomic status are already at greater risk of lagging behind academically upon entering kindergarten. They are likely to be less prepared to take on academic challenges compared to their peers from families with medium or high socioeconomic status.

In a study on the factors influencing the academic achievement of students in Malaysian schools, Leong, et al (1990) ranked variables encompassing socioeconomic and background factors, school factors, home factors and miscellaneous factors according to the magnitude of their relationship with and their influence on the achievement of primary and secondary schoolchildren. Their findings indicated socioeconomic status as a strong predictor of academic
achievement. However, they also suggested that socioeconomic status's strength of influence weakened as the child moved up the educational level.

Socioeconomic factors may have been found to affect individual differences that are related to educational success such as motivation, attitude, and degree of good health and language development opportunities. However, socioeconomic factors cannot provide a clear explanation as to why there had been low socioeconomic status students who had become successful learners while some had faced problems; why there had been children of different ethnic minority groups but with similar socioeconomic backgrounds who have acquired different levels of academic competence.

Further support for the influence of socioeconomic status on academic achievement can be found in Crane (1996). In his study on the effects of home environment, socioeconomic status and maternal scores on Mathematics achievement, Crane (1996) suggests that parents with higher socioeconomic status would be more able to create home environments that are conducive to learning and would also be more able to provide their children with better opportunities for learning. Crane goes on to say that availability of better opportunities for learning, which could come in the form of exposing children to particular social and cultural environments, could have positive effects on their academic achievement.
Caldas and Bankston (1997) and Bankston and Caldas (1998) suggest that the concentration in population of students with certain socioeconomic status that influenced their levels of preparation, standards of performance, or attitudes to learning in particular schools may raise or lower school effectiveness. These two studies found that students could benefit academically by simply attending schools dominated by students from advantaged family backgrounds, and could suffer academically by attending schools with higher concentration of students from disadvantaged backgrounds.

In another study on the relationship between individual family structure, school and family structure, and school academic achievement, Caldas and Bankston (1999) examine variations in academic achievement among schools in the Louisiana district in America. Their findings indicate that some schools are more effective than others because the school population includes lower percentage of students from one-parent families. The findings also indicate that among poverty level, racial composition, and parental composition, parental composition is the strongest predictor of performance.

Wang and Goldschmidt (1999), on the other hand, have investigated the effects of opportunity to learn, language proficiency, immigrant status and socioeconomic status on mathematics achievement in large urban schools in California, USA. They observe that the differences in socioeconomic status account for only some of the achievement differences. The researchers found
that in large urban Californian schools, students with immigrant status and low English proficiency are streamed into less demanding courses, which reduced their opportunity to master core subjects in the curriculum. Wang and Goldschmidt suggested that in taking the decision to stream students in this way, these schools may have assumed that after having taken the English as a second language course, immigrant status students would have enough mastery of the language to pursue more advanced courses when in actual fact they still needed language support in order to achieve well in the context-embedded mathematics courses.

In addition to that Wang and Goldschmidt (1999) recommended that it is important to study indicators of students' opportunity to learn as they would provide a better description of the school curriculum, quality of educational services and in-school learning opportunities. Findings from their study showed a more significant relationship between the opportunity to learn and language proficiency in the mathematics achievement of immigrant students with low English proficiency than their differences in socioeconomic status. Finally, this study concluded that not all students can benefit equally from the same course content and that if students are held responsible for their own learning, then schools should be held responsible to provide students with the opportunity to learn to meet the schools' standards.
This current study also looked into the influence of socioeconomic status as measured by parental educational attainment and occupation on the pupils' academic achievement. When discussing low socioeconomic status, researchers in the developed world consistently linked it with the ethnic minority population since the racial and ethnic composition of the current school-age population in most parts of the world has become more diverse. As such, it is only logical that academic achievement studies should include in their discussion language use and ethnicity factors. Language use should include bilingualism, second language acquisition and school language acquisition. These then are the focus of the next section of this literature review.

2.5 The Influence of Language-Use Patterns on Academic Achievement

As has been discussed in Chapter One, the school population in Malaysia consists of children from various linguistic and ethnic backgrounds. As such it is necessary to understand the theories and studies regarding the impact of language and ethnic diversity in learning and schooling practices. It has to be noted here that most of the literature reviewed in this section deals with English as the target language, second language and school language mainly due to the lack of literature on Bahasa Melayu as the school language. There are, nevertheless, a few studies on Bahasa Melayu Brunei (Bruneian Malay). However, the academic situation in Brunei and that in Malaysia are not at all the same. Where education in Brunei is bilingual with some subjects taught in
Bahasa Melayu and some subjects taught in English, in Malaysian schools, all subjects are taught through the medium of Bahasa Melayu with English taught only as a second language.

In spite of the fact that Bahasa Melayu is not the first language of many schoolchildren, Bahasa Melayu has never been referred to or considered as a second language. Instead it is almost always been referred to as the national language. This is what makes the investigation into the impact of Bahasa Melayu, as the medium of instruction on learning so complex as the use of the language in school does not fit any of the theories surfacing from available literature. It is felt that the best approach might be to look at bilingualism first and then to consider school language acquisition whilst attempting along the way to fit in appropriate theories on language learning. One thing that is clear is that Malaysian schoolchildren use more than one language because they learn through the medium of Bahasa Melayu and they also study English as a second language. In that sense they fit the basic definition of a bilingual—able to use more than one language. However, there are variations in the definition of bilingualism among scholars throughout the century. Therefore, it is first important to define what bilingualism means to this current study.
2.5.1 Bilingualism Defined

There is no single definition of individual bilingualism that is comprehensive enough to include all the different types of individuals who describe themselves as 'bilingual'. Descriptions rather than definitions of bilinguals have often been in the form of one type of bilingual versus another type. Baker and Prys-Jones (1997) discussed various definitions of bilingualism. Bilingualism has been understood by some to be a dichotomy between additive bilinguals vs. subtractive bilinguals, or taken in terms of points of acquisition as simultaneous vs. successive bilingualism. Simultaneous childhood bilingualism refers to a child acquiring two languages at the same time early in life. Sequential childhood bilingualism is when a child learns one language first and then a second language. The Baker and Prys-Jones (1997) encyclopedia lists the general theory on the appropriate boundary between simultaneous and sequential childhood bilingualism as three years old. After the age of three, there is a higher possibility for the second language to be acquired through formal instruction.

Another perspective of bilingualism presented in Baker and Prys-Jones (1997) are the terms 'early' or 'late' bilingualism. Somewhere in between, Skutnabb-Kangas (1981) popularized the 'elite' vs. 'folk' bilingualism. Most of these dichotomies of bilingualism based their description on the level of proficiency in two or more languages. By defining bilingualism based on descriptions of the level of proficiency, linguists and sociologists have actually focused on
characterizing the individual mental and cognitive properties of bilinguals. The level of proficiency described in bilinguals can range from the high end as native-like control of the different languages to minimal communicative skills in a second or foreign language (Hornberger, 1992).

While it has been found that bilingualism can positively influence cognition (Cummins, 2000; Krashen, 1999; Collier, 1995), it may also have an "additive" or "subtractive" effect on linguistic development in children. The "subtractive" effect occurs when the second language becomes the predominant language and the mother tongue disappears (Hakuta and Diaz, 1985). The "additive" effect would result in the child becoming a "balanced" bilingual.

The term "balanced bilingual" (Romaine, 1995) is frequently encountered in the literature on bilingualism. Balanced bilinguals are bilinguals who are roughly equally skilled in their two languages. In this sense then, someone who has native-like control of both languages would be considered a balanced bilingual, but so would someone who possesses minimal control over both languages. As such Siguan and Mackey (1987) stressed that the perfectly balanced bilingual does not exist in practice because the bilingual will always use one language in certain circumstances and with certain people.

Siguan and Mackey (1987) came up with the term "alternation" as part of the basic characteristics of bilingualism. They note that a young child who is learning to speak two languages from birth is not only able to keep the two linguistic
systems apart but also able to switch between the systems rapidly and effortlessly as the communicative event and partner change. The bilingual child, according to Siguan and Mackey, would begin to demonstrate this ability very early in life and the ability becomes fully established between the ages of three and four.

However, Cummins (1991) points out that the effects of bilingualism on children's educational and intellectual growth depend very much on the type of bilingualism that is developed. Where children develop low levels of proficiency in both languages, educational and intellectual progress will be slowed down. However, where children's abilities in both languages are relatively well developed, but not necessarily equal, then there is evidence that bilingualism can enhance intellectual functioning. The following section reviews literature on bilingualism in the school context.

2.5.2 Bilingualism in the School Context

In the education field, bilingualism is generally discussed in connection to language learning, language planning and education policies. Bilingualism in education concerns teachers, parents, students and policy makers, as well as scientists, scholars and researchers. In English-speaking countries like the US, the UK and Australia the issue of bilingual education is closely related to the reasons why children become bilingual and the societal circumstances that
causes or forces them to become bilinguals (Romaine, 1994). Historically, Malaysians became bilinguals through changes in society. With the implementation of the ICPS, the education system has caused or forced non-Bahasa Melayu speaking Malaysian children to become either bilinguals or if they are already speaking more than two languages, multilinguals.

Both children from linguistic majorities and linguistic minorities may sometimes be obliged to follow a school programme in a medium of instruction that is different from their home language or mother tongue. Children in Singapore, for example, are educated in the English language, which although widely spoken, is the second language to Mandarin. In Malaysia, speakers of languages other than Bahasa Melayu have to become bilingual in order to participate in school through the medium of Bahasa Melayu. When there is a rift between the language spoken at home and the language spoken within the school environment, the pupils concerned are obliged to conform and integrate.

Discussion of bilingualism issues also involves making a distinction between individual and societal bilingualism, but it is not always possible to distinguish between the two. Canada, for instance, is officially known as an English-French bilingual country but on the individual level, not all Canadians are bilingual. On the other hand, Malaysia is not officially a bilingual country and has only one national language, but its people are mostly speakers of more than one language.
The difference between societal and individual bilingualism may be better seen in terms of the speaker's language choice (Romaine, 1994). To take the example of Canada again, English-speaking Canadians are given the choice to learn French. And most do so mainly because they genuinely believe mastery of another language has many advantages. But in Malaysia, bilingualism began in a sense with the large-scale immigration imposed by the colonials and later continued with the necessary process of racial integration via the national language and education policies.

Language choice among people in multilingual communities is based on the speaker's desire to identify with particular groups of their choice. In Malaysia, although there are no statistics to support this point, an increasing number of people, especially in urban communities, have chosen English as their first language and for some they do so without maintaining their mother tongue. So much so, in urban schools it is not unusual to find children, including Malay children, who are not fluent in their mother tongue or in Bahasa Melayu. They are more comfortable communicating in English. Bahasa Melayu acquisition for these children is likely to be slow and not without difficulties as their use of Bahasa Melayu is restricted to interactions with the teacher and in performing academic tasks.

Romaine (1994) includes disrupted patterns of intergenerational cultural transmission as a result of majority/minority status relations and the attitudes of
the majority/minority to the majority/minority respectively as one of the more recently identified factors influencing academic achievement of minority children. Romaine (1994) also reports that many linguists now conclude that negative attitudes towards non-standard speech and bilingualism are more decisive in determining academic outcomes than actual linguistic differences themselves.

Bilingualism in countries such as the UK or USA, according to Romaine (1994), will only survive for as long as the community members continue to speak their own languages. When they choose to adopt the more powerful language in place of their own, the community may become monolingual over time. Language loss is already the case with many aboriginal languages in Malaysia. Progress and industrialization have forced them out of their natural linguistic habitats to be educated through the national school system. Assimilation into the more powerful language group, especially through the process of monolingual education, can eventually lead to the death of the languages of small minority groups. As the speakers have no choice but to obtain education through the majority language, their own language becomes less functional and eventually incorporated into a different form.

When speaking of language functions, it is important to note that in different contexts, different registers of a language are put to use. Thus, in the process of education for example, the academic register is the type of language that is used, while in social interactions in the home environment for example, everyday
register is the type of language used (Gibbons and Lascar, 1998). The academic register is a specialized use of the language that is unlikely to be acquired in the home environment. Children with a home language that is different from the school language are unlikely to develop academic registers in their home language.

In the Malaysian context, children who are schooled exclusively through the medium of Bahasa Melayu are likely to acquire the academic register in Bahasa Melayu. Children who attend the national-type primary schools where the medium of instruction is either Tamil or Mandarin may be at a greater disadvantage. Once they begin secondary education in Bahasa Melayu, not only do they have to re-orientate their primary school academic register from Tamil or Mandarin to Bahasa Melayu, they would at the same time, have to acquire new and more complex Bahasa Melayu registers of secondary education. This may create learning difficulties at the secondary level. However, as this study is only concerned with primary schoolchildren, this point will not be discussed any further.

In summation, studies suggest that a well-developed everyday register, although it may aid acquisition of the academic register in some ways, is different from the academic register. Furthermore, where the development trend of the school language is different from the development of the home language, the linguistic outcome may well be limited proficiency in both languages.
In line with Malaysia's policy to preserve and sustain the growth of the language and culture of the minority groups, the primary school system provides opportunity for the learning of mother tongues/heritage languages through the Pupils' Own Language Programmes. However, in some schools, these programmes are not yet running as there are not enough teachers or not enough interested pupils (personal communication). Parents who are concerned about the loss of their heritage language may engage private tutors to provide their children with language classes at home. For most children however, there is very little opportunity of acquiring academic competence through their mother tongue. While the children may have developed a relatively good conversational register in their mother tongue, they have not been provided with the opportunity to acquire many other types of registers, particularly the academic register, in that language.

Another often-discussed aspect of bilingualism is proficiency. Cummins (2000) distinguished the bilingual proficiency of language minority children in two ways—in everyday conversational language and in cognitive academic language. Cummins (1991) hypothesized that everyday language is more context-embedded, while academic language tends to be context-reduced and that everyday conversation language delivery occurs in association with plenty of contextual supports such as non-verbal actions, instant feedback and cues. Cognitive academic language delivery, on the other hand, occurs in association with higher order thinking skills such as analysis, synthesis and evaluation.
Cummins' (1991) distinction between everyday conversational language proficiency and cognitive academic language proficiency can be better illustrated by Cummins' (1984) iceberg image through which he suggests that under the surface features of a bilingual speaker's languages is a common underlying proficiency that makes it possible to transfer cognitive skills from one language to another. The logical conclusion from this theory is that maintenance of the first language will help, not hinder, children's acquisition of a second language. Many researchers in this area, such as Thomas & Collier (1997), support Cummins' iceberg analogy. The iceberg analogy also suggests that academic proficiency goes deeper than the surface fluency of everyday conversational fluency. Academic proficiency involves utilizing higher order thinking skills to convey and demonstrate comprehension of meanings in academic situations.

Bilingualism and high academic achievement are often seen as incompatible, especially among limited English proficiency (LEP) students. Conventional logic has tried to establish that maintaining the first language while learning English impedes learning among LEP students. As Lindholm and Aclan (1991) acknowledge, research linking bilingualism and academic achievement have provided conflicting results.

Cummins and Swain (1986) found a strong relationship between students' language proficiency and their academic achievement. Lindholm and Aclan (1991) examined reading and mathematics achievement in both Spanish and
English. The results showed that high proficiency bilinguals performed better than medium proficiency bilinguals, who in turn performed better than low proficiency bilinguals. In addition, a study conducted by Ratna (1998) on factors that were related to the degree of Bahasa Melayu and English proficiencies among students in the district of Hulu Perak, Malaysia, found that there was a significant relationship between the students' Bahasa Melayu and English language performances in the Standard 6 examination (PSAT) and their bilingual ability.

In the past it was thought that bilingualism causes cognitive confusion that leads to poor academic achievement. However, such an assumption is often incorrect. It is only when both the child's languages are poorly developed that cognitive confusion may occur (Baker, 2000). Sometimes the problems in language proficiency arises from an academically created situation when assessments of the level of literacy and language competence have been narrowed to such an extent that children's experience with language at school is assessed separately from their everyday communicative competence (Romaine, 1994). In such cases, lack of language proficiency has often been cited as the main cause for school failure especially among children from linguistic minorities.

Romaine (1994) suggests that teachers and education departments should have clear definitions and means of identifying intelligence, learning disability, language proficiency and bilingualism. And schools must be able to accept
bilingualism and all the stages a child undergoes in acquiring proficiency in more than one language as natural developmental milestones rather than illogical and therefore a sign of poor achievement.

2.5.3 Acquisition of the School Language as a Second Language

Since minority language children's poor academic achievement has often been taken to be associated with their lack of proficiency in the school language, it is thought that minority language children should be given more exposure to the school language. Although there may be some benefits in increasing the minority children's exposure to the school language, it does not, however, explain why minority language children who are allowed to use their home language in the curriculum, produce both academic success and majority language proficiency (Lindholm and Aclan, 1991). Therefore, increased exposure to majority language does not necessarily guarantee high academic achievement (Baker, 1993). The following sections will discuss theories in second language acquisition and school language acquisition processes separately.

2.5.4 Second Language Acquisition

The term 'second language' refers to that language other than the first language that is acquired either together with or after the acquisition of the first. In that sense, Bahasa Melayu is a second language to many of the Malaysian
population including to some Malay children as well. This section will discuss evidence why this is considered so.

The main objective of the Bahasa Melayu component in the ICPS is "to produce pupils with expertise in and [able to] show value and appreciation of Bahasa Melayu as the official language, the language of national integration, and the language of knowledge." (www.moe.gov.my/kpm/reform.htm).

As far as policy makers are concerned, this objective has been met (www.unesco.org/wef/countryreports/Malaysia/rapport.htm). Bahasa Melayu is now more widely used. Many minority language speakers have become multilingual with Bahasa Melayu featuring as one of the languages they speak. Some minority speakers may even prefer to use Bahasa Melayu instead of their mother tongue.

Theoretically, successful linguistic assimilation of ethnic groups within a host country is due to the groups' weakened identification with their own ethnicity (Romaine, 1994). But the sociolinguistic environment in Malaysia is not one that can be easily explained by existing theories. Minority groups in Malaysia may no longer see themselves as a separate member of the majority language group. Their ethnic stereotypes can still be easily identified, although not necessarily by their individual ethnic mother tongues. It would not be too difficult to find ethnic minorities who do not know how to speak their mother tongue but still practise
and identify with other aspects of their ethnicity. For example, a Malaysian Indian may have an Indian name, albeit often attached to an English name (for example a name like ‘Paul Pragasam’ or ‘Josephine Vengadasamy’), wears Indian national clothes, eats Indian food and celebrates Indian festivities but is unable to speak, read, write or understand a word of Tamil. Similar practices can be observed among Malaysian Chinese as well. But what is interesting about this picture is that, while they have stopped using their mother tongue, they have not adopted the language of the majority group, which is Bahasa Melayu. Instead, they have adopted the English language as their first language and Bahasa Melayu as their second language. For the minority groups, dropping their mother tongue and adopting English may be a personal choice but acquiring Bahasa Melayu is likely to be a decision not made by choice but a necessary step since the implementation of the National Language Policy.

Crawford (2001) suggests that a person from a minority group who is likely to assimilate the language of the dominant group is someone who perceives his ethnic group as having low ‘vitality’ in comparison with the dominant group. The perception of ethnolinguistic vitality takes into consideration the economic, historical, social, political, and language status of the ethnic group, the size and distribution of the ethnic group and the institutional support the dominant group provides for the ethnic group. All these factors working together may have made it possible for most Malaysians to be Malaysians rather than Malays, Indians or Chinese. However, there is no evidence to support the theory that the minority
groups in Malaysia perceive their individual groups as having 'low vitality' compared to the majority.

Although writing more than 25 years ago, Schumann's theory on a language speaker's willingness to shift from the native language to a dominant language is still relevant today. For this researcher, it is not for his theory's' relevance but the contrast they raised against Malaysia's sociolinguistic environment that made Schumann (1978) a subject of interest. Particularly interesting are the theories he expounds as part of his Acculturation Model of Second Language Learning (1978). According to Schumann a language functions in three ways, as a means of:

- communication

- integrating an otherwise diversified population

- expressing feelings, ideas and personality.

Through these three functions of language, Schumann proposed a socio-psychological model of second language acquisition. The John Schumann (1978) Acculturation Model of Second Language Learning was based on his hypothesis that a second language learner's level of proficiency in the target language depends on the degree to which the learner acculturates to the target language group. This model could be used to explain the 'surface' success of the national language policy in Malaysia.
However, in the Malaysian school environment where academic success depends on competence in the school language, the relatively high rate of poor academic achievement questions the extent of the national language policy's success at social integration. Being a multilingual and multiracial country, Malaysia has to face many sensitive language issues within the politics of the country. In this respect, language becomes one of the critical issues in its endeavor to establish its national identity. During the British rule, English was widely used in all social and political affairs. After independence in 1957, the indigenous language, Bahasa Melayu became the country's national language. What is of relevance to this study, however, is the fact that the government has continued ever since then to develop its function in administration and education whilst encouraging the learning and maintenance of the other languages and mother tongues. Nik Safiah (1994), however, suggests that Bahasa Melayu has managed to function in a great part of the controlling domains of language use in the country, and that generally, the language planning process in Malaysia is a fairly successful one, especially with respect to national language planning.

In summation, the Malaysian sociolinguistic environment is one that is unique as it has undergone many changes and is still changing. It is therefore difficult to explain Malaysia’s linguistic environment using existing linguistic theories. While there may be a large proportion of the Malaysian population who no longer feel they are other than just Malaysians, there are also those who would still like to be called Indian or Chinese. In much the same way, they may be people who are
willing to make the linguistic shift and be assimilated into the dominant group; it is also likely that there are some members of the minority groups who would make the effort to maintain their heritage language. There may also be people who have chosen to adopt a third language (for example English) as their home language. However the linguistic environment is perceived, it should be recognized that for many learners in Malaysia, Bahasa Melayu is a second language. It should also be recognized that for many learners too, the school is where they get their first formal introduction to Bahasa Melayu. In such a setting, it is not plausible to assume that all learners will quickly and effortlessly gain competence in and through Bahasa Melayu. Therefore, the success of the national language policy should not be based purely on the surface Bahasa Melayu proficiency of the people but also on the academic proficiency of the children educated through the language.

In second language acquisition studies, a distinction is often made between a second language and a foreign language. The distinction is based on the principle that the second language plays an institutional and social role in the community. It functions as a recognized and mutually understood means of communication among members who all speak different mother tongues (Ellis, 1997). The foreign language on the other hand, does not enjoy such a wide usage or recognition. The issue of foreign language does not arise in the Malaysian context because neither English nor Bahasa Melayu has a foreign status. For many Malaysians, Bahasa Melayu is not perceived as a second
language due to its high political and social status within the country. However, in the school setting the acquisition of Bahasa Melayu could present second language learning problems that can be too easily overlooked. Apart from the high status that Bahasa Melayu enjoys, the tendency to overlook its second language characteristics may also arise from the way it is acquired.

Second language acquisition studies stress the importance of having a clear definition of what is meant by 'acquisition'. Klein (1986) made a distinction between naturalistic and instructed second language acquisition. He argued that in naturalistic second language acquisition the learner focuses on communication and thus learns the language incidentally, whereas in instructed second language acquisition, the learner typically focuses on some aspect of the language's system. Another differentiation made between learning and acquiring the second language can be found in Nicol (2000). For Nicol, acquisition refers to the subconscious process of picking up a language through exposure and learning as the conscious process of studying it.

The acquisition of Bahasa Melayu can be perceived as occurring in both naturalistic and instructed settings because the language is widely used inside and outside of the formal school setting. This can in some way reduce its second language characteristic and policy makers may want to believe that its acquisition will be natural and automatic. However, a more pertinent issue is how much of this output is accurate or functional in the various settings that it is in use.
Although Bahasa Melayu is the mother tongue of the Malay people, the variety of Bahasa Melayu that Malaysian children of all ethnic origins would have acquired prior to school entry is likely to be the informal version of the language. For children who had not been exposed to this informal version of Bahasa Melayu, their first encounter with the language would be with the formal version. This is probably why many Indians and Chinese students appear to have better proficiency in Bahasa Melayu than the Malays themselves. These groups of Indians and Chinese have consciously studied Bahasa Melayu as a school subject. On the other hand, the Malays and the others who had been exposed to the informal versions and dialects would have to deal with issues such as 'interference' and 'transference' between the formal and informal versions.

Baker (1993) refers to proficiency as the outcome of language ability that is measurable by language testing. Cummins (1979) stresses the importance of making a distinction between second language "surface fluency" and the academic aspects of second language proficiency. This stance is based on his finding that children may be able to communicate in everyday face-to-face situations in the second language, but they may not be proficient in the academically related aspects of the second language. Gibbons and Lascar (1998) suggested that when children are limited to use their mother tongue only in the home environment, they have very little opportunity to develop aspects of the mother tongue that relate to more complex and more public use. For Malaysian children who enter school already proficient in the domestic variety of
Bahasa Melayu, performing academic tasks in the school language may prove stressful and disabling for their learning. This brings us to the issue of school language acquisition process.

2.5.5 School Language Acquisition

Second language acquisition studies have shown that the level of proficiency in the first language has a direct influence on the development of proficiency in the second language. The lack of continuing first language development has been found, in some cases, to inhibit the levels of second language proficiency and cognitive academic growth. In this respect, Lewelling (1991) reported that in almost all cases, a bilingual instructor's judgments of students' relative competence in native language studies coincided with the same students' relative achievement in English.

The language proficiency needed for academic purposes is not as straightforward as it may seem. It is assumed that if a child can demonstrate comprehension when spoken to and can construct meaningful discourse in the second language, the child is therefore sufficiently proficient in the language and should have no problem coping with the curriculum that is taught through the language. According to Collier (1989), the type of language proficiency that is required for school encompasses in one part, mastery of all the four language skills: listening, speaking, reading and writing; in another part, it involves the
ability to put all these four skills to specific use in each of the subject areas taught in the curriculum. According to Chamot and O'Malley (1987), language acquisition for academic purposes must include the acquisition of the vocabulary and special uses of language for each subject area and other academic skills associated with the use of language in specific content areas. This makes the school language acquisition process a cognitively demanding and difficult process to master. When the school language is also not the home language its acquisition process is even more demanding.

Studies in the acquisition of academic skills in the second language have focused mainly on immigrants learning in the host country environment. Although this setting is different from the Malaysian learning environment, some of the findings may help in understanding of some of the problems Malaysian learners might face.

Cummins (1981) studied the length of time immigrant children needed to acquire school language when educated exclusively in the second language after arrival. He discovered that students with low English proficiency upon arrival took between 5 to 7 years to reach native speaker norms at the 50th percentile. Collier (1987) and Collier and Thomas (1989) provided further evidence that second language proficiency for academic competence among students schooled exclusively in the second language required a minimum of 5 years to reach the 50th normal curve equivalent on standardized tests. All three studies
also found that this is true for both students who have the advantage of a strong educational background and come from middle or upper-middle class background as well as for the less advantaged students.

In the present Malaysian environment, most learners are not newly arrived immigrants. Instead the school population may consist of a mixture of the following:

1. Children whose first language may not be their heritage language;
2. Children of second or third generation immigrants who have chosen to maintain the use of heritage language in the home;
3. Children whose home language is the informal variety of the school language and
4. Children of immigrants from neighboring countries (Indonesia, Philippines and Thailand) whose dominant language is the languages of their country of origin.

The diverse linguistic backgrounds of these children together are likely to create problems for teachers in ensuring the smooth process of school language proficiency acquisition and academic achievement. Although there is no reported evidence as to the existence of any problem in the acquisition of Bahasa Melayu as the language of schooling, it does not mean that the problems do not exist. It is likely that these children may face similar problems in school

Second language acquisition studies have also found that lack of continuing first language cognitive development during second language acquisition may have a negative effect on the development of second language proficiency and in cognitive-academic growth. Cummins (2000) described this as limited bilingualism. Ellis (1997) suggested that the first language, especially the degree to which it has developed, is likely to affect the order of development, the rate of development and the level of final proficiency in the second language. The benefits of a well-developed home language can, as Swain and Lapkin (2000) found in their study on French immersion students, spread to the learning of a second language. Swain and Lapkin report that their subjects who are literate in their home language progressed significantly more in written and oral French than those without such skills. Similar acquisition processes may apply to young Malaysian learners.

Malaysian schoolchildren enter school at the age of 6. From the age of 6 onwards, they progress towards the acquisition of reading and writing skills. But for these children, they have to acquire these complex skills through the school language not the home language. If they had been introduced to the school language at home or at kindergarten through story reading and simple writing tasks for example, they would have had some foundation in preparation for
school. In a study on factors influencing academic achievement of students in Malaysian schools, Leong et al, (1990) observed that children who have had kindergarten experience, where they are exposed to Bahasa Melayu and in some cases English language instruction as well, generally performed better than those who had not had the experience. Those who had not been exposed to the school language prior to school entry were likely to have negative cognitive effects associated with their performance at school. However it is not clear from their findings whether children whose home language is the domestic and dialectic variety of Bahasa Melayu faced the same risk of negative effects.

Children who attend the Tamil medium national-type primary schools may be at greater disadvantage. Once they begin secondary education in Bahasa Melayu, (as mentioned earlier there are no Tamil medium secondary schools) not only would they have to translate already acquired Tamil school registers into Bahasa Melayu, they would also have, at the same time, to acquire new and more complex registers of the secondary syllabus through the medium of Bahasa Melayu. It does not seem possible that one year re-orientation into Bahasa Melayu provided by the 'remove class' could cover six years of primary school training.

Findings from Leong et al (1990) indicate that children from Tamil-medium primary schools continued to perform at the lowest level throughout their secondary education in comparison to the performance of Malay and Chinese
students. Leong et al, suggest that their lack of proficiency in Bahasa Melayu is one of the contributing reasons for their poor academic performance.

Therefore, the evidence gathered thus far strengthens the view that children whose home language is different from the school language may face some language learning related difficulties in acquiring academic competence when schooled exclusively in the second language. These difficulties may in turn lead to or enhance specific difficulties for children in the process of acquiring academic competence.

2.6 Conclusion

The literature reviewed in this chapter has helped in a number of ways in conceptualizing the theoretical framework and the research design of this study. Firstly, there are in the literature a number of different descriptive terms and theoretical and sociological assumptions that need careful re-examination as to their appropriateness for this study's target population.

Secondly, the literature has brought to the fore a number of parameters — pupil factors such as gender, socioeconomic status, home background, school environment and practices and language-use—that would seem to strongly suggest that "poor" learners cannot be studied isolated from their social
embedding and that therefore this study would have to include these among the variables investigated.

Thirdly, one issue that emerged from the studies from various parts of the world, is that teaching-learning cultures vary in different settings and that the variance may affect the kind of research questions that would be relevant in each setting and the kinds of investigation that need to be used in answering them. It would seem that a preliminary study, which is the subject of the next chapter, is necessary to gather the specific features of the research site (primary schools in Malaysia: their administrative system and their teaching-learning culture, for instance) so these may also be taken into account in forging a context-sensitive research design.

Lastly, a very important issue that has been raised in the literature is the contribution of the language of instruction to academic performance, specifically in situations where the language of instruction is either not the home language of the child or if it is the home language, not the same variety of the language used in the home. This issue also needs specific attention in this study.
3.0 Aims and Objectives of the Preliminary Study

Before the main study was conducted in June 2000, a preliminary study was carried out in the four schools selected as the sites of inquiry for this investigation. This preliminary study was done to accomplish a number of objectives:

(a) To enable the researcher to familiarize herself with the school culture and to establish rapport with the teachers, head teachers and other staff that were to serve as her informants;

(b) To discover which of the many factors mentioned in the literature would be worth investigating within the Malaysian education system and what may be the most appropriate tools to use to obtain the relevant information;

(c) To obtain from the school administration and teachers information on the larger issues of the educational infrastructure, specifically:
   • how "poor" learners were defined;
   • how they were identified (e.g. what identification instrument(s) they used);
• whether they had a formal or informal checklist of characteristics they used in the identification of "poor" learners;
• once they were identified, what practices, if any, governed their treatment; how many of the schools in the sample actually had intervention/remediation programmes;
• what kind of resources these schools had for the implementation of intervention programmes;
• what Malaysian teachers' perceptions of the following were, encompassing:
  o the variables mentioned in the literature (background, home, school, socioeconomic status and language-use) as important influences on academic achievement;
  o current methods of identifying "poor" learners; and
  o what can and should be done to help "poor" learners improve;
(d) To pilot some of the research tools to be used in the main study, through:
  • interviews with selected teachers to identify important items that needed to be included in the questionnaire for teachers;
  • a preliminary analysis of performance data, to establish:
    o whether the sample was adequate;
    o whether the evaluation instruments selected proved to be empirically suitable and effective as measures of performance for the purposes of this investigation;
if they proved inadequate, what changes needed to be made in
fine-tuning these research instruments.

3.1 Methodology

3.1.1 The Sample

As the focus of this study is on the academic achievement of poor learners, the
sample comprised the schools, the school administrative staff and the teachers.
A more detailed description of the sample and the rationale for is choice will be
discussed in the following sections.

3.1.1.1 The Schools

The schools included in this study were chosen for the following reasons:

- They are national schools with Bahasa Melayu as the medium of
  instruction. It was important for this study that all the schools used the
  same medium of instruction. This researcher is a native speaker of
  Bahasa Melayu and is not competent in either Mandarin or Tamil, so only
  national schools with Bahasa Melayu as the medium of instruction were
  selected.

- The school population consists of boys and girls from the three main
  ethnic groups and from both privileged and underprivileged backgrounds.
• The schools offer similar educational, extra-curricular, and remedial programmes and were thus answerable to the same education authority. This means that all the schools should provide similar academic and extra-curricular programmes, including special skill intervention programmes for reading, writing and arithmetic.

Based on the above reasons, four national primary schools in Kuala Lumpur, the capital city of Malaysia were chosen to participate in this study. The schools are henceforth referred to as Schools A, B, C, and D.

3.1.1.2 The Administrative Staff

The purpose for including administrative staff in the sample was to obtain from them information on the administration and organization of the school. Such information may not be readily available from teachers as they would not be directly involved in the administration of the school. Initially the headmaster/mistress had been seen as the person to provide this information. However, after discussing this with the headmaster of School A, which was the first school visited, it was decided that the best authority on the school organizational structure would be the Senior Assistant (Administration and Curriculum). To standardize the sample, following the change made at School A, the headmaster/mistress from all four schools were excluded from the exercise and replaced by the respective Senior Assistants (Administration and
Curriculum). Therefore the administrative staff sample consisted of four Senior Assistants (Administration and Curriculum).

3.1.1.3 The Teachers

The teacher sample consisted of eight teachers, four who had taught the 1998 Standard 4 pupils and four who were currently teaching the 1999 Standard 5 pupils. As it was an aim of this study to do an in-depth investigation of the performance of one group of pupils in the fourth and fifth year of study in their primary education, the teacher sample was selected by the schools' headmaster/mistress based on the following criteria set by the researcher:

- They had to be, at the point of data collection, teaching the 1999 Standard 5 pupils or had taught the 1998 Standard 4 pupils the year before;
- They have had at least one year's experience teaching Standard 4 and/or Standard 5;
- They had been involved in designing the scheme of work for Standard 4 and/or Standard 5;
- They had been involved in the writing and vetting of the 1998 and 1999 Standard 4 and Standard 5 examination papers.

3.1.2 Research Instruments

The instruments for in this preliminary study consisted of:
• Relevant Government documents (as source of information only)
• Questionnaire for Senior Assistants
• Interview Schedule for teachers
• Pupils' School-based Assessment Results.

The following sections will describe these instruments.

3.1.2.1 Government Documents

Although they are not research tools per se, relevant extracts of several government documents were obtained to supplement the information provided by the schools. These included policies, acts and general public information guide books related to the education system in Malaysia, the national language act, the programmes introduced into the primary school curriculum, and teacher training. Although the information obtained from these documents were not analyzed together with the data obtained from the schools, they are nevertheless part of the data and will be discussed together with the findings from the analysis of the data.

The information obtained from government documents also formed part of the literature review and aided in the designing of the survey tools used in both the preliminary and the main studies. Parts of these documents had been reproduced and discussed in Chapters One and Two. Where appropriate, some of these documents were included as appendices.
3.1.2.2 Questionnaire for the Senior Assistants

The Senior Assistant questionnaire (Appendix 1) sought to obtain factual information on the school system and its organization. The questionnaire was structured in such a way that it could be completed and collected during the school visit so as to exclude the risk of the questionnaires being misplaced or not completed. The questionnaire was divided into four sections:

- Current school system, structure, administrative organization and curriculum;
- Teacher population in 1999;
- Pupil population in 1999;

Most of the information provided by the senior assistants was accompanied by printed documents obtained from the school records. For the purpose of confidentiality, these documents are not attached as appendices but are available from the researcher.

3.1.2.3 Interview Schedule for Teachers

The interview schedule was prepared in both Bahasa Melayu and English. It was divided into four sections that sought the following information from the teachers (refer to Appendix 2 for the final English version of the interview schedule):

- their educational attainment and professional training;
• the process involved in assessing pupils' performance and attainment
• characteristics of a poor learner;
• language-use patterns among pupils and teachers.

Two types of question were used: fixed-alternative and open-ended items. The fixed-alternative items required the teachers to choose from two alternatives (Cohen, Manion and Morisson, 2001). For example:

• Can the teacher identify poor learners?
  Yes _______
  No _______

The rationale for opting for fixed-alternative items was to ensure uniformity in the responses between teachers and also to make the data easier to code. The rationale for including open-ended items in the interview schedule was to allow for flexibility for both the researcher and the teacher. The researcher may want to probe responses and the teacher may want to elaborate further. An example of an open-ended item is provided below:

• What is your opinion on the use of Bahasa Melayu as the medium of instruction?

In terms of question format, most of the questions in the schedule sought factual information with a few items inviting opinions from the teachers. Therefore the direct question format was used as opposed to the indirect format to reduce the
risk of getting answers that deviate from the subject of the question (Cohen et al, 2001). Where the factual information sought required some elaboration on the part of the teacher, the fill-in question mode, which only requires the teacher to provide one word or short phrase answers, was used. For example:

- *How long have you been a teacher?_____________
- *What subjects do you teach? _______________
- *How many languages do you speak? __________

3.1.2.4 School-based Assessment Results

Part of the design of this study was to carry out an analysis of the pupils' assessment results over 2 years. Since the data required from the pupils involved only their assessment results, it was not necessary to make direct contact with the pupils themselves. Instead, only their assessment results were obtained from the schools' administrative staff. Pupils included in the study were those who were in Standard 4 in 1998 and currently in Standard 5 in 1999. When the researcher visited the schools in 1999, the 1998 Standard 4 pupils had already begun their Standard 5. The total number of 1999 Standard 5 pupils came to 412.

Standard 4 assessment results were obtained because at Standard 4 pupils begin studying in Phase II of the ICPS. By this time the children were considered to have mastered the language of learning as well as the basic
literacy skills of reading, writing and arithmetic. This current study had analyzed pupils' assessment results for indications of the extent this expectation of mastery had been fulfilled. For comparison purposes, the 1998 Standard 4 pupils' assessment results for the following year, 1999, (when they had moved up to Standard 5) were also obtained from the school authorities.

3.1.3 The Procedures

The schedule was piloted on five Malaysian teachers from schools other than the four included in this study. The pilot schedule (English language) can be seen as Appendix 3. The pilot was conducted in the same way as in the actual data collection exercise. But unlike the actual teacher sample, the pilot sample was invited to provide critical feedback on the suitability and effectiveness of the schedule. Amendments were then made to the schedule based on the feedback from the pilot sample. The schedule was piloted in both Bahasa Melayu and English. Data collection consisted of face-to-face interviews with the eight teachers. A short questionnaire was used with the four Senior Assistants. The interview schedule for teachers and the Senior Assistant questionnaire are attached as Appendices 2 and 1 respectively.

The researcher herself administered the face-to-face interview and questionnaire in Kuala Lumpur. The chief reason for direct administration of the questionnaire and interview was to ensure a higher response rate compared to other
approaches (Fraenkel and Wallen, 1996). As it turned out it was a wise decision. Since this was the first of a series of school visits, the personal contact helped to establish rapport and cooperation with the teachers and administrative staff.

Prior to the school visits, approval was obtained from the Malaysian Ministry of Education. Upon approval, an information package (Appendix 4) was sent to each of the four schools. The information package included, a letter addressed to the headmaster explaining the purpose and nature of the study, what information was needed from the schools and how the data were to be collected. Upon her arrival in Kuala Lumpur, the researcher made calls to the respective schools to confirm receipt of the information package and to set up appointments for the interviews.

Each interview lasted approximately twenty minutes and was carried out by the researcher. As both the researcher and the teachers could converse in Bahasa Melayu and English, there was a lot of code-switching between English and Bahasa Melayu in the interviews. Allowing the teachers to switch between the two languages made them feel more at ease and more willing to participate. During the interview, the researcher adhered to the sequence and wording of the prepared schedule with all the teachers to ensure uniformity. All interviews were tape recorded with permission from the teachers for purposes of crosschecking responses.
3.1.4 Analysis of the Data

Qualitative analysis was used to process the information obtained from government documents, and the data obtained through the questionnaire, and interview. The government documents were analyzed as part of the literature review and the relevant information were incorporated in the discussion of the findings. As the questionnaire for the Senior Assistant sought objective facts on the school administrative structure, organization and population, the data obtained were analyzed and described qualitatively. The results are presented in section 3.2.2 as frequency counts.

The pupils' examination results obtained from the Senior Assistants required a more complex analysis procedure. The raw data were first organized into three performance level categories — High, Average, and Low Achievers — so comparisons can be made between the High and Low Achievers. Comparisons in performance patterns were also made between ethnic groups and between schools. Finally, the performance patterns of each school's top and bottom 5% pupils were analyzed. The results are presented in section 3.2.4.

The tape-recorded responses of the interviews were transcribed immediately after each school visit. Since the focus is on the content of the responses rather than the patterns in the discourse, simple transcription style was employed. The pauses, interjections and intonations were not transcribed. The transcribed
responses were then tabulated according to topics and the data analyzed using frequency counts. These results are presented in section 3.2.3.

3.2 The Data

The data consisted of four parts and each of these four parts will be presented separately in the following sections.

3.2.1 Information from Government Documents

The following government documents were reviewed as part of the literature review and the information obtained was incorporated in the discussion of the findings:

- School administrative procedures as per the Ministry of Education guidelines including the schools' Organizational Charts that illustrate the administrative structure in practice;
- Trainee teacher selection procedures, as well as pre- and post-training programmes;
- The ICPS;
- Policies regarding language issues, particularly the medium of instruction;
- Pupils' performance assessment procedures;
- Identification and remediation of poor performance.
3.2.2 Data From the Senior Assistant Questionnaire

Each section of the questionnaire sought information about the respective three components of the school—the administrator, the teacher, and the pupil. The data obtained are presented separately below.

3.2.2.1 School Administration Structure and Organization

The information provided confirmed that all four schools practised administrative procedures as per the Ministry of Education guidelines. Appendices 5a, b, c and d are the Organizational Charts that illustrates the administrative structure of Schools A, B, C and D respectively.

3.2.2.2 Teacher Population

Information from the Senior Assistants confirmed that all teachers at the four schools had obtained their teaching certificates from government teacher training colleges. Table 4 lists the number of Standard 4 (1998) and Standard 5 (1999) teachers at the four schools together with their ethnic origins.
Table 4


<table>
<thead>
<tr>
<th></th>
<th>School A</th>
<th>School B</th>
<th>School C</th>
<th>School D</th>
<th>Total (Ethnic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
</tr>
<tr>
<td>Malay</td>
<td>7 5</td>
<td>4 3</td>
<td>3 3</td>
<td>9 9</td>
<td>23 20</td>
</tr>
<tr>
<td>Chinese</td>
<td>- -</td>
<td>1 1</td>
<td>- -</td>
<td>- -</td>
<td>1 1</td>
</tr>
<tr>
<td>Indian</td>
<td>1 3</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>1 1</td>
</tr>
<tr>
<td>Others</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>1 0</td>
</tr>
<tr>
<td>Total</td>
<td>8 8</td>
<td>5 5</td>
<td>4 4</td>
<td>11 11</td>
<td>28 28</td>
</tr>
</tbody>
</table>

3.2.2.3 Pupil Population

Table 5


<table>
<thead>
<tr>
<th></th>
<th>School A</th>
<th>School B</th>
<th>School C</th>
<th>School D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
</tr>
<tr>
<td>Malay</td>
<td>86 80</td>
<td>50 48</td>
<td>44 49</td>
<td>75 73</td>
<td>255 250</td>
</tr>
<tr>
<td>Chinese</td>
<td>3 6</td>
<td>2 1</td>
<td>- 2</td>
<td>56 56</td>
<td>61 65</td>
</tr>
<tr>
<td>Indian</td>
<td>25 27</td>
<td>9 7</td>
<td>7 6</td>
<td>42 44</td>
<td>85 82</td>
</tr>
<tr>
<td>Other</td>
<td>- 3</td>
<td>1 3</td>
<td>4 5</td>
<td>7 8</td>
<td>15 15</td>
</tr>
<tr>
<td>Total</td>
<td>114 116</td>
<td>61 57</td>
<td>54 61</td>
<td>180 178</td>
<td>409 412</td>
</tr>
</tbody>
</table>

As can be seen in Table 5, the bulk of the population consisted of Malays, who form the majority of the country's population. Although the Chinese are the second largest ethnic group in the country, the population distribution of the four schools indicated that there were not very many Chinese pupils in Schools A, B and C.
Table 6 describes the population of each of the schools in terms of number of classes and class size.

<table>
<thead>
<tr>
<th>Standard</th>
<th>School A</th>
<th>School B</th>
<th>School C</th>
<th>School D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of classes</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
<td>4 5</td>
</tr>
<tr>
<td>Number of pupils</td>
<td>Class 1</td>
<td>Class 2</td>
<td>Class 3</td>
<td>Class 4</td>
</tr>
<tr>
<td>Class 1</td>
<td>35 38</td>
<td>30 28</td>
<td>31 29</td>
<td>41 39</td>
</tr>
<tr>
<td>Class 2</td>
<td>38 39</td>
<td>31 29</td>
<td>23 26</td>
<td>39 40</td>
</tr>
<tr>
<td>Class 3</td>
<td>41 39</td>
<td>31 29</td>
<td>23 26</td>
<td>45 44</td>
</tr>
<tr>
<td>Class 4</td>
<td>44 44</td>
<td>44 44</td>
<td>44 44</td>
<td>44 44</td>
</tr>
<tr>
<td>Total number of pupils in each Standard</td>
<td>114 116</td>
<td>61 57</td>
<td>54 61</td>
<td>180 178</td>
</tr>
</tbody>
</table>

Schools B and C were of similar population size. They shared the same buildings and compound but they came under different administration. School B had the morning session and School C the afternoon. It is common for two different schools to share the premises like Schools B and C due to lack of space in a densely populated urban area. School A had a large population and had three classes of each Standard compared to just two in Schools B and C. School D, on the other hand, had the largest population with four classes for each Standard. The Ministry of Education had undertaken efforts to maintain the teacher: pupil ratio of 1:21 and to work towards lowering it to 1:15 (Ministry of Education, 2000). The data in this study indicated that at the four schools, the teacher: pupil ratios were within the ratio stipulated by the ministry. For Standard 5, School A has a 1:15 teacher-pupil ratio; School B has a ratio of 1:12, School C, 1:15 and School D, 1:16.
3.2.2.4 Discussion of the Data from the Senior Assistant Questionnaire

The teachers at the four schools were all trained and qualified; therefore there was no reason to implicate poor teaching quality when discussing poor learning among this study's pupil sample. The teacher-pupil ratios at the four schools were also small in comparison to the ratio stipulated by the Ministry, leading this researcher to deduce that there would be enough teachers to handle the teaching load assigned. However, class size at the four schools told a different story.

Although there were enough teachers in terms of overall number of pupils in Standard 5 for example, the class size was found to be larger than the size recommended by the ICPS. When the ICPS was developed, it was intended that class sizes would be at a maximum of 25 pupils. However, the average number of Standard 5 pupils in the two smaller schools, Schools B and C, were 30 and 29 respectively. If 5 or 6 extra pupils in a class could make a difference in the implementation of the ICPS, Standard 5 teachers at Schools A and D faced a bigger problem. The average number of Standard 5 pupils in Schools A and D (38 and 45 respectively) were much bigger than the 25 pupils per class stipulated by the ICPS.

As can be seen from the data, the ethnicity of the pupil population indicated a higher enrollment of Malay followed by Indian pupils compared to Chinese pupils.
This was because Schools B and C were located in an area predominantly inhabited by Malays and Indians; therefore the enrollment reflected the surrounding population distribution. Although Schools A and D were expected to have ethnic group distribution patterns that were similar to each other as both schools were located in an area inhabited by relatively equal proportions of the three main ethnic groups, more Chinese pupils were enrolled at School D than at School A. There is no factual explanation of this pattern in pupil population distribution at the schools. It could only be deduced that Chinese parents in the area where Schools A and D are located for some unknown reason preferred School D to School A.

These observations based on the data obtained will be discussed further when analyzing the pupils' examination results. The patterns in pupils' performance across the four schools and across ethnic origins would add more insights to the deductions made here.

3.2.3 Data from the Teacher Interview

Eight teachers were interviewed using the interview schedule. The data obtained were divided into four main sections, which will be discussed in the following sections. It has to be noted that the perceptions presented here are only from the teachers' point of view. The preliminary study did not set out to make contact with the pupils, as it was meant to be preliminary investigations into the school
practices and culture. Therefore this study cannot at this point discuss how the pupils themselves perceive of the educational services provided for them. Section 6.2.3 will discuss the pupils' perception of school and learning.

3.2.3.1 Teachers' Educational Attainment and Professional Background

Question 1 sought information on the teacher's training and experience. The question was divided into six parts the results of which are presented in Table 7. The teachers are labeled in terms of numbers attached to an alphabet. The alphabet indicates the school the teacher is from.

As can be seen in Table 7, School A respondents were the most experienced teachers followed by those from School C. In comparison, School B respondents were newly trained on their first posting as a teacher. Of the eight respondents, half have had no experience teaching in other schools as they had been at their current schools since they qualified as teachers. Of those who had not had the experience of teaching at other schools, three have been teaching the same Standard since they began teaching. Two of the three teachers who had transferred to their present schools within the last five years had only just been assigned to teach the current Standard they were teaching. One teacher said that she had been teaching the same group of pupils for three consecutive years (from when the pupils were in Standard 3 to when they are in Standard 5).
Table 7

Background Information of the Teacher sample
(N = 8)

<table>
<thead>
<tr>
<th>School/Teacher</th>
<th>No. of years of teaching</th>
<th>No. of years teaching at this school</th>
<th>No. of years teaching in this Standard</th>
<th>Subjects teaching</th>
<th>Qualification</th>
<th>Language of communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A/1</td>
<td>33</td>
<td>10</td>
<td>5</td>
<td>BM, ART</td>
<td>SPM, TEACHING CERT.</td>
<td>Malay, English</td>
</tr>
<tr>
<td>School A/2</td>
<td>16</td>
<td>4</td>
<td>1</td>
<td>BM</td>
<td>SPM, TEACHING CERT.</td>
<td>Malay, English</td>
</tr>
<tr>
<td>School B/3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>BM, M3</td>
<td>STPM, TEACHING CERT.</td>
<td>Malay, English</td>
</tr>
<tr>
<td>School B/4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>M3, PE SCI</td>
<td>SPM, TEACHING CERT.</td>
<td>Malay, English</td>
</tr>
<tr>
<td>School C/5</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>ENG, M3</td>
<td>STPM, TEACHING CERT.</td>
<td>Malay, English, Tamil</td>
</tr>
<tr>
<td>School C/6</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>BM, LOS LVS</td>
<td>SPM, TEACHING CERT.</td>
<td>Malay, English, Arabic</td>
</tr>
<tr>
<td>School D/7</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>BM, PE SCI,</td>
<td>SPM, TEACHING CERT.</td>
<td>Malay, English</td>
</tr>
<tr>
<td>School D/8</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>BM, ME</td>
<td>SPM, TEACHING CERT.</td>
<td>Malay, English, Iban</td>
</tr>
</tbody>
</table>

KEY: BM – Bahasa Melayu, SCI – Science, ART – Art and Craft, SPM – Sijil Pelajaran Malaysia, STPM – Sijil Tinggi Persekolahan Malaysia

In this data, the highest educational level attained was observed to be the Sijil Tinggi Pelajaran Malaysia (STPM), which is similar to the British A-level. However, only two of the eight teachers achieved that level; the highest educational attainment for the majority was the SPM, which is equivalent to the
British O-level. The SPM is also the minimum requirement to qualify into teacher training courses and all eight respondents had obtained their teaching certificates from government Teacher Training Colleges. Although teachers in Malaysian schools have been known to teach subjects they had not been trained to teach (personal communication), all the teachers in this sample were teaching subjects they were trained to teach.

In terms of their linguistic background, the data indicate that the entire teacher sample were Bahasa Melayu-English bilinguals. Furthermore, all the Bahasa Melayu subject teachers were native speakers of Bahasa Melayu.

3.2.3.2 Assessment Procedure of Pupils' Academic Performance

All four schools administered three types of assessments spread out across the 210 days of the academic year. In each school, teachers teaching the same subject worked as a team under one team leader. At the beginning of each academic year, the team would meet to decide on their target for that year. The targets included:

- the number of informal and formal assessments to be given,
- dates on which they were to be given,
- topics to be covered,
• dates as to when drafts of test papers were to be handed in to be vetted by the Senior Assistant,
• who should set the tests and
• other matters related to the teaching and assessment of the subject.

Although the standard procedure was for the Senior Assistant (Administration and Curriculum) or the Headmaster/mistress to vet all formal test papers before they were printed and given to the pupils, this procedure was sometimes not followed. Although they were aware of this vetting procedure, five of the respondents did not get the headmaster to check the drafts of the examination papers but did it among team members themselves.

All four schools administer three types of assessment in one academic year—monthly tests, formal tests, and school-based attainment tests. All pupils in all the classes in the same Standard of each school will be given the same test regardless of their individual ability levels.

The monthly test is usually administered at the end of every month. It is an optional practice and left to the subject teachers' discretion whether to use it or not. The test is set, administered and graded by the subject teacher. Items tested in monthly tests are based on topics covered within that particular month. The function of this monthly test is to monitor pupils' current attainment level. The results of the monthly test allowed teachers to provide necessary remedial
teaching to overcome any problems before they go on to new topics the following month. According to the teachers, sometimes it is not possible to give a monthly test when, for example, there are too many public holidays in that month. When this happens topics covered in that month would be added to the following month's topics and the test given then. Children would take their corrected test papers home for their parents to sign as a way of acknowledging that parents had been informed of their children's progress.

The Formal Test is administered at a scheduled time (usually every third or fourth month) to all pupils following formal examination procedures. Examination papers are set by the subject teacher and checked by the team leader. The formal test assesses pupils' understanding of the topics taught over the three months. The results of this formal test enable teachers to identify pupils who may have problems attaining satisfactory progress. From this point teachers monitor the future progress of pupils who have not shown any or little improvement in grades.

The School-based Attainment Test (SAT) is administered at the end of each semester. The first semester SAT assesses the children's attainment level over the first six months of the year and the second SAT assesses the children's overall attainment level on topics covered over the whole year. Other than assessing children's overall progress, the result of the first SAT is used to identify poor learners (defined as those whose overall performance has been below the passing grade). At this point, in schools where remedial programmes are
available, teachers use the SAT results to identify pupils needing remedial education.

In the following semester, the same assessment procedure is carried out—monthly tests, followed by formal tests and finally the end-of-year SAT. It is also the practice in the four schools to use the end of the year SAT results to stream the children for the next academic year.

All eight teachers support using examination results for streaming pupils according to academic performance. The consensus is that streaming worked well for both the pupils and the teachers. In a mixed ability class, the teachers felt that the good pupils would eventually lose interest if the teacher had to frequently slow down for the poor learners. Streaming has been working well for the teachers because it helps to make teaching and monitoring pupils' needs easier. Since there could be up to fifty pupils in one class for larger schools such as Schools A and D, it is agreed that it would be difficult to provide quality teaching to mixed ability groups. Teachers also said they would have to spend a lot of time preparing materials of different levels of difficulty to cater to the needs of children of differing abilities. It is felt that teachers would be able to provide more challenging tasks for pupils knowing that every child in that class should be able to accomplish the tasks set. For the less able pupils, the teachers felt that they could pace their teaching and materials to meet the pupils' needs.
Respondents were asked to state the functions of the various types of assessments, and the result is summarized in Table 8 below. The responses to this item of the interview were grouped under seven common themes. The frequency of a response was counted and ranked starting from the most frequently observed response. Each respondent provided more than one response.

Table 8

Functions of School Assessment: Respondents' Perception
(N = 8)

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stream pupils according to achievement level</td>
<td>8</td>
</tr>
<tr>
<td>To assess current learning/how much of what has been taught recently has been learnt</td>
<td>6</td>
</tr>
<tr>
<td>To assess overall ability/how much of what has been taught since Standard 1 has been learnt and utilized</td>
<td>4</td>
</tr>
<tr>
<td>To identify areas/topics still unclear to pupils so teachers can review the topics</td>
<td>3</td>
</tr>
<tr>
<td>To identify poor learners for remedial programmes</td>
<td>1</td>
</tr>
<tr>
<td>To provide pupils with practice at taking exams</td>
<td>1</td>
</tr>
</tbody>
</table>

From the data it is deduced that the four schools do not use school-based assessments to specifically identify “poor” learners. The identification of poor learners is actually only one of the products of the analysis of the pupils' examination results.
3.2.3.3 Identification Procedure and Definition of Poor Learners

All eight respondents indicated that if they were asked to look out for "poor" learners, they could identify them. The first and most obvious way according to the teachers is to look at the pupils’ performance in the various school assessment tests. Respondents indicated that they defined poor learners as those pupils who consistently fail in all subject assessments.

The respondents estimated that in each Standard, there would be about 10% to 15% poor learners. Respondents also indicated that the percentage of poor learners would decrease to about 5% to 10% as the children progress to Standard 6. The teachers' perceive that, through their observation and experience, at least 5% of the pupils identified as poor learners continue to perform at the fail-grade throughout their primary school education. It must be noted here that this figure was not based on any school statistical records, but are estimates to the best of the respondents' perception as subject teachers.

3.2.3.4 Characteristics of a Poor Learner

As part of the characterization of a poor learner, respondents were asked to rank the school subjects poor learners would find difficult, starting with the most difficult. The ranking was based on the teachers' perception of the pupils' ability. Table 9 below summarizes the findings:
Table 9

Subjects Poor Learners Find Difficult: Respondents' Perception

[1 = most difficult, 2 = difficult, 3 = least difficult]

<table>
<thead>
<tr>
<th>SCHOOL A</th>
<th>SCHOOL B</th>
<th>SCHOOL C</th>
<th>SCHOOL D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SCIENCE</td>
<td>1. B.MELAYU</td>
<td>1. SCIENCE</td>
<td>1. SCIENCE</td>
</tr>
<tr>
<td>2. B.MELAYU</td>
<td>2. SCIENCE</td>
<td>2. B.MELAYU</td>
<td>2. MATHEMATICS</td>
</tr>
<tr>
<td>3. MATHEMATICS</td>
<td>3. MATHEMATICS</td>
<td>3. MATHEMATICS</td>
<td>3. B.MELAYU</td>
</tr>
<tr>
<td>Standard 5 (1999)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. SCIENCE</td>
<td>1. B.MELAYU</td>
<td>1. SCIENCE</td>
<td>1. SCIENCE</td>
</tr>
<tr>
<td>2. B.MELAYU</td>
<td>2. SCIENCE</td>
<td>2. B.MELAYU</td>
<td>2. B.MELAYU</td>
</tr>
<tr>
<td>3. MATHEMATICS</td>
<td>3. MATHEMATICS</td>
<td>3. MATHEMATICS</td>
<td>3. MATHEMATICS</td>
</tr>
</tbody>
</table>

What can be seen from the data is that teachers perceive the poor learners in Standard 4 of Schools A, B, and C to have found Science and Bahasa Melayu more difficult than Mathematics, and the situation would remain the same when they had moved to Standard 5. Although the teachers in School D perceive their poor learners as finding Bahasa Melayu the least difficult subject in Standard 4, but they found it more difficult when they move to Standard 5. Since the teachers generally characterized poor learners as having poor literacy and numeracy skills, they also perceived that the poor learners would find subjects that required such skills as reading and numeracy, difficult. Science is a new subject introduced to Standard 4 under Phase II of the ICPS, therefore it is expected that all pupils would find it difficult. It is the same with Bahasa Melayu.

From Standard 4 through Standard 6, the subject Bahasa Melayu is taught as two components, Comprehension and Writing. Teachers indicate that pupils, and especially those poor learners who have not yet mastered reading, usually find the Writing component more difficult than the Comprehension. From Standard 1 through Standard 3, the writing is guided (completing sentences,
filling in blanks, rearranging sentences into correct sequence or writing using pictures as clues). The writing component for Standard 4 includes unguided compositions, letter writing, summary writing, composing greeting cards and poems. In the comprehension component pupils are assessed on their reading, and aural and written comprehension. Aural comprehension includes understanding specific questioning techniques, listening to stories told by their teacher and their peers, poetry recitation and group discussions. Reading comprehension includes interpreting non-linear text such as graphs, charts and maps, story prediction, and techniques to support or refute statements.

The factors respondents use as indicators of poor learning can be categorized into four common themes. First, all of the respondents indicated that the best indicator of poor learning is the pupils' attainment pattern in school assessments. Based on experience, respondents made the observation that poor learners consist of those who consistently obtained fail grades in almost all subjects and in all school assessment tests. Respondents indicated that the main reason for the pupils' failure is their inability to read and understand test papers. They would either send in an incomplete answer script or when it is a multiple-choice type of test, they would make wild guesses, which were often wrong. This type of behaviour is also extended to their class work—seven of the respondents observed that poor learners work much slower and most of the time would hand in incomplete and untidy work.
Secondly, poor attitude towards school and learning were seen as indicators of poor learning. In relation to this, five of the respondents observed that poor learners often came to school unprepared. They would often forget to bring some of their books and equipment, and their books were torn and untidy. In class they were disruptive, not paying attention, disturbing other pupils and doing other things when they were supposed to be listening to the teacher or finishing their work. Some poor learners, however, according to two of the respondents, have been observed to be quiet and passive during lessons. They did not take part in class activities and often avoided eye contact with the teacher. In addition to that, two of the respondents described poor learners as distracted, indifferent to learning, and frequently absent from school for many days without reason. They also described poor learners as appearing tired and uninterested in their surroundings.

Thirdly, parental attitude may sometimes indicate poor learning among pupils; and two of the respondents felt that if parents took more interest in their children’s schooling and welfare, there would be fewer cases of poor learning. They felt that parents should do their part at home so that when the child arrived in school, the child was ready for learning.

And finally, according to one of the respondents, some poor learners performed poorly in school because of some emotional problems they have at home, for example, parents’ were too busy or parents were recently divorced or constantly fighting with each other.
3.2.3.5 Provision for Poor Learners

All eight respondents indicated that the only provision available that offers help to poor learners was the remedial programme. The two respondents from School C, where there was no remedial programme due to lack of resources, felt strongly about one being set up as soon as possible.

Apart from the remedial programme, Table 10 summarizes the frequency of classroom-based activities provided for poor learners. The responses (from the eight respondents) were grouped under three main themes and ranked according to degree of frequency.

Table 10

Classroom Based Activities for Poor Learners: Respondents’ Perception (N = 8)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide extra exercises and help in class</td>
<td>7</td>
</tr>
<tr>
<td>Nothing much a teacher can do in class</td>
<td>6</td>
</tr>
<tr>
<td>Provide advice and counseling</td>
<td>4</td>
</tr>
</tbody>
</table>

Respondents indicated that extra help in class involved providing practice exercises more suitable to the poor learners’ level of understanding or by taking the time to explain difficult concepts through a different approach. In order to do this during normal teaching time, respondents said they had to resort to assigning work to the average pupils while they focus on the poor learners. All eight respondents indicated that they were aware this would slow down the
progress of the average as well as the excellent pupils, but they could not see any other way to handle the problem, as their contact time with the pupils was limited.

Making pupils feel that teachers do care about them and wanted to help them is part of the teachers' role. Four of the respondents believed that it was important that pupils, especially the poor learners, knew this. Care was shown through frequent counseling sessions with pupils, providing constant motivation and aiding them to manage their time and to develop good study habits.

Where available, teachers tended to depend on the remedial programme to handle the difficulties poor learners have with their learning. Apart from giving extra help to poor learners during class time, seven of the respondents indicated that there was nothing much a teacher could do to help the poor learners overcome their problems. These respondents indicated that the large class sizes and the pressure of completing the syllabus within the stipulated time did not allow them the flexibility to cater for poor learners' needs. If given the opportunity to decide on the type of help the school could provide for poor learners, five of the respondents indicated that the remedial programme would be the best way. However, they also felt that the administration of the programme could and should be further improved so better services could be provided to poor learners. Improvements suggested were in the following areas:
- **The criterion used for selection into the remedial programme**
  According to three of the respondents, the existing test used for selecting pupils for remedial programme excluded many pupils whom teachers have recommended for remedial work as based on the selection criteria they did not qualify. Yet many of these pupils were not able to cope with the content and pace of mainstream teaching.

- **The time of testing and selection into the remedial programme**
  Two respondents recommended that the selection process for remedial programme should begin from Standard 1, or as soon as the subject teacher began to notice a problem in a pupil. Based on the current practice, pupils are only recommended for remedial programmes from Standard 4 onwards.

- **The design of the programme and its activities**
  Two respondents would like to see separate programmes designed for pupils from different Standards and to have the remedial programme work in line with the mainstream syllabus content, in place of the current system where poor learners are grouped together and given the same set of activities regardless of their age or ability level.

- **The training programme for remedial teachers**
  According to one of the respondents, it is important to appoint fully qualified remedial teachers. This implied that generally teachers do not think that remedial teachers need special training and are therefore not aware of the seriousness that should be put into planning the
management of children with difficulties in learning. The current practice in schools was that the headmaster/headmistress would appoint one of the staff members, usually a Standard 1 teacher, to be the remedial teacher. Although the appointed remedial teacher will first attend workshops on remedial programme organized by the Ministry of Education, the workshops only provided guidelines on how to administer the selection test and how to carry out activities designed by the Ministry.

- **The content of remedial programmes**

At present, the remedial programme covers reading, writing and arithmetic skills in Bahasa Melayu only. Remedial programmes, according to one of the respondents, should include English language as well, implying that others seven do not think it necessary to provide remedial classes in English.

- **Training for mainstream teachers**

Two of the respondents indicated that if teachers were expected to teach poor learners alongside more able learners in the mainstream class, then they should be trained to meet the needs of poor learners. All the respondents would also like to be provided with teaching materials more suitable for poor learners and not have to pay for the cost of materials themselves.

Finally, although the entire sample were of the opinion that most parents tended to depend too much on the school to educate their children only one teacher
suggested that parents of poor learners should be educated and informed of ways in which they could help their children at home. This implies that there are teachers who are not aware of the things they can do, or can suggest that parents could do, to help poor learners, especially in the absence of more structured remedial provisions.

3.2.3.6 Teachers' Perception of Pupils' Language-use Patterns

Respondents in all four schools stated that pupils and teachers use Bahasa Melayu most of the time inside and outside of class. Two respondents from School B indicated that they have used some English during Mathematics when non-Malay pupils found some concepts explained in Bahasa Melayu difficult to understand. One respondent in School A said she would deliberately use English during Art lessons because she wanted her pupils who were all Malays to have more opportunity to practise their English language skills.

Respondents have also observed some pupils speak in their home languages in class. Although it is not school policy, five of the respondents said that during lessons conducted through the medium of Bahasa Melayu, no other language is allowed, but outside of class time pupils are free to use any language of their choice. The teachers said they do this to ensure pupils use standard Bahasa Melayu more and the more they use it the faster they will master it.
All respondents observed that in general, pupils who share the same home language tended to group together and often speak to each other in their common language, especially the Malays and the Indians. Malays, Indians and Chinese who speak English or a mixture of English and mother tongue at home were observed to be more likely to have friends of different ethnic groups and they speak English or English and Bahasa Melayu with each other. Indians, Chinese and Malays who do not share the same home language and are also not comfortable with English were observed to group only with friends of the same ethnic group. When they do have to speak to friends who are of another ethnic origin, they use Bahasa Melayu. All respondents observed that a majority of Chinese pupils do not speak Chinese. They use either English or Bahasa Melayu or both, even when speaking to other Chinese friends.

Six respondents from Schools A, B and C collectively said that most Malay pupils are more comfortable speaking in Bahasa Melayu except for those few who speak more English at home. But the two respondents from School D observed that the majority of pupils at School D speak, wherever possible, more English than any other language. Based on the information in Table 5, School D has a larger proportion of Chinese and Indian pupils in comparison to the other three schools. As stated by the respondents earlier, most Chinese appear to feel more at ease communicating in English than other languages. It is also the two teachers’ (from School D) observation that, most pupils from this school come from affluent family backgrounds with educated parents and they speak more
English. Nevertheless, the teachers at School D noted that although their pupils prefer to speak English more, most have had no problem with Bahasa Melayu or learning through Bahasa Melayu. The data do appear to suggest that children who come from bilingual home backgrounds performed better at school than those who speak mostly one language at home and at school.

When respondents were asked whether they thought having the medium of instruction in a language other than the pupils' home language had any effect on the children's learning, the entire sample replied that it has not had any effect. Furthermore, half of the sample said that the medium of instruction is not the problem for poor learners—the slow acquisition of reading, writing and counting is the problem. The medium of instruction, according to all of the respondents, should not be a problem because the children had been exposed to the language from Standard 1 and so the language had become automatic for them. If there were any problems with the medium of instruction at all, these problems would normally "sort themselves out after two years". By the time the children enter Standard 3 they would have mastered the language adequately.

3.2.3.7 Discussion of the Teacher Interview Data

The data indicate that all eight of the respondents are trained teachers. The data also show that four of the respondents are relatively young with less than three years working experience. The other half of the sample was more experienced
and two of them were senior teachers (with 33 and 16 years' experience). As a point of reference, it is noted here that an individual who becomes a teacher after completing 2 ½ years of teacher training upon completion of the SPM will be able to put in about 39 years of service before retiring at age 56. Therefore a teacher with 33 years of service could be assumed to be one who is valuable to the school. Overall, all the teachers were qualified and have been trained to educate primary school children. As discussed in the literature review, there is ample evidence to suggest that the quality of teachers and teacher training programmes are important in ensuring the quality of teaching and educational outcomes (Cheng, 1996; Hanushek, 1997; and Wenglinsky, 1998). However, this preliminary data do not claim to reflect the entire school population but just a small sample of the teacher population.

According to the data on teachers' linguistic background and language proficiency, all are proficient in Bahasa Melayu and English with three of the respondents also proficient in a third language. Based on the professional and linguistic description of the teachers, there should not be any doubt in the teachers' proficiency in the language of instruction and the quality of teaching delivered at these four schools. Although this research is unable to verify the respondents' proficiency in the English language and the third language, it can justify that they are proficient in Bahasa Melayu. This is because the minimum requirements for entry to the pre-service teaching diploma programme are a credit pass in the subject the candidate intends to specialize in and at least four other credits inclusive of a credit pass in Bahasa Melayu at Sijil Pelajaran
Malaysia (equivalent to Cambridge GCE O-level). The student teacher is expected to have at least a comprehensive education at the upper secondary school level before becoming a teacher (Ministry of Education, 2000).

In terms of assessment procedure, all four schools follow the standard procedures stipulated by the Ministry of Education. It is interesting to observe from the data that all four schools still streamed pupils according to their performance in school-based assessments, even though the ICPS does not encourage it. This indicates that the schools felt that streaming is a more practical way for organizing teaching strategies.

In terms of the characteristics that constitute a poor learner, all of the respondents said that a poor learner is first identified based on their performance in school-based assessment and daily academic tasks and then by their general attitudes towards schooling and their behaviour. The main characteristic highlighted by the teachers was pupils' low interest in classroom activities and general lack of interest in schooling. These observations on the part of the teachers paralleled findings from studies concerning the effect of student effort and attitude towards schooling (Brookhart, 1998; Lamdin, 1996; Caldas, 1993). It was suggested in these studies that students who show positive attitudes towards schooling usually will put in more effort into their studies which in turn will produce better learning outcomes. On the average, the respondents indicated that there could be around twenty poor learners in each Standard. Analysis of the examination result data revealed that the number of poor learners
based on academic performance is similar to the number of teacher identified poor learners.

Based on the respondents' perception, most poor learners would find Bahasa Melayu and Mathematics as the more difficult subjects at school. This difficulty according to the respondents is due to the poor learner's limited acquisition of the basic skills of reading, writing and counting. The data indicate that pupils' difficulties with learning were never analyzed in depth; it is mainly based on whether a child passed or failed a particular subject. A fail grade would denote that the child has difficulties with the subject and when the child continued to fail after some in-class remedial teaching, the child might be considered a poor learner. The specific difficulties the child faced were never identified. However, teachers observed that most pupils, even if in the beginning they find it difficult to learn Bahasa Melayu and through Bahasa Melayu, they are able to overcome their problems. This is because they do not have reading problems. On the other hand, the 5% poor learners who continue to have difficulties will continue to lag behind in attainment level because although they can communicate in Bahasa Melayu, they cannot perform academic tasks satisfactorily. The respondents related the difficulties faced by the poor learners as having to do not so much with the learning of the Bahasa Melayu or through the medium of Bahasa Melayu, but with their inability to master literacy skills, especially reading.

This being so, school remedial programmes focused mainly on reading intervention in Bahasa Melayu. All respondents supported the remedial
programme and were keen on taking poor learners out of their mainstream classes and sending them to the remedial class so the teachers could concentrate on covering the syllabus with the more able pupils. Furthermore, none of the respondents made reference to the 1994 Salamanca Statement. It is clear from their responses that the respondents are not in support or are not aware of the Ministry of Education's pledge to actively work towards practising inclusive education as agreed in the 1994 Salamanca Statement on inclusive education. It also suggests that the Ministry of Education, whilst in support of inclusive education, has not disseminated the Salamanca framework and objectives to the schools. The schools in this preliminary investigation are obviously still working at designing the most effective segregation programmes for children with special needs.

Of the four schools, three had remedial programmes running. Respondents indicated that the remedial programme is a beneficial support for teachers and should be expanded to include more pupils and cover all school subjects. Respondents found it difficult to provide effective individual attention to poor learners during mainstream teaching since the enrolment in each class can reach up to fifty pupils of different ability levels. What can be deduced from the data is that teachers in this sample appeared to be largely concerned with completing the syllabus within the stipulated time. It was probably the time constraint and the large class size that pressured teachers so they were not keen on taking on the responsibility of doing extra for the pupils with difficulties in learning. Hence
they support the practice of putting poor learners in a separate programme and to be taught by a different teacher, which is totally the opposite of what is stated in the 1994 Salamanca Statement.

In a personal communication with an officer from the Special Education Department of the Ministry of Education in Malaysia, it was discovered that although Malaysia supports inclusive education, and is trying to move towards it, the switch from segregation to integration is not that simple. The Ministry’s main concern, according to this officer, has mainly to do with the costs of securing trained manpower able to handle children with diverse educational needs in one classroom. As can be seen from this preliminary investigation, teachers feel they do not have the expertise or the time to meet the special needs. Furthermore schools are not keen to jeopardize their almost clockwork schedule by sending experienced teachers for re-training.

However, Lynch (1994) suggests that it would be more costly to segregate than to integrate and that the support teacher system might be the most cost effective and educationally productive way for a country like Malaysia, who is just beginning to realize the concept of inclusive education. This same report also suggests that making the switch from segregation to integration need not require more staff than what is already in place at the schools. Unnecessary costs can be cut if spending is used mainly for reviewing already existing programmes. The areas that should be looked into in order to launch into inclusive education
include teacher retraining, initial and induction training, improved deployment, motivation and professional support, learning materials, and a revised curriculum to meet the educational capabilities and needs of a wider range of children. Already now, in schools where effort has been made to introduce inclusive education through collaborative teaming, teachers are confused as to the role boundaries between mainstream and special education teachers (Zalizan, 2000). Nevertheless, Zalizan (2000) believes that despite difficulties faced, the responses from schools indicate emerging support for inclusive education.

In terms of language use, teachers observed that pupils used mostly Bahasa Melayu with each other in most situations. However, they also observed that pupils from more affluent family backgrounds with parents who have had higher education, tended to speak more of other languages, apart from their own mother tongues. These pupils were also reported to be performing better academically than the pupils who come from less affluent family backgrounds and speak only their mother tongues.

Although the pupils learnt through one common language, Bahasa Melayu, in communicative situations outside of the classrooms, some pupils speak in preferred languages that could be different from the school language. For many children, in such situations, Bahasa Melayu is not the preferred language. Therefore, further information on the pupils' language-use patterns need to be gathered and the effects these patterns have on academic outcomes need to be investigated.
Teaching, the respondents indicated, would be carried out in Bahasa Melayu at all times although some respondents do resort to English in situations when pupils found the explanation in Bahasa Melayu difficult to understand. Respondents in general, also did not perceive the medium of instruction as a problem for the pupils. This view will be considered when the analysis of the pupils' performance in school-based assessments is reported.

3.2.4 Data from Pupils' School-based Assessment Results

Records of school-based attainment test (SAT) results for the 1998 Standard 4 and 1999 Standard 5 were obtained for analysis. This was done to compare pupils' performance over two consecutive years. The pupils' examination results were analyzed in the following ways:

- Comparison between the low achievers' and the high achievers' performances,
- Performance of each school's top 5% performers,
- Performance of each school's bottom 5% performers,
- Performance of each school's ethnic groups.

In the school sample, academic attainment was measured in terms of the pupils' performance in the SAT for all subjects. However this current study focused on the following subjects: Bahasa Melayu (Comprehension), Bahasa Melayu
(Writing), Mathematics, and Science. All four schools used a standard marking scheme:

- **A**: Excellent  80-100 marks
- **B**: Good  60-79 marks
- **C**: Satisfactory  40-59 marks
- **D**: Poor  20-39 marks
- **E**: Weak  0-19 marks

(Grades D and E are failure grades)

For the purposes of this study, the SAT results obtained from the four schools were re-organized into three performance categories. These categories are:

- **High Achievers** (pupils who obtained **A** grade, 80 – 100 marks in the subject).
- **Average Achievers** (pupils who obtained **B** and **C** grades, 40-79 marks in the subject).
- **Low Achievers** (pupils who obtained **D** and **E** grades, 0 - 39 marks in the subject).

The pupils that this study was interested in were the ones in the low achievers category. These were the pupils who had been obtaining less than 40 marks out of 100 in each of the subjects assessed. This study is mainly interested to draw out the pattern of performance of pupils within the low achievers category in comparison to the performance of pupils in the extreme opposite end of the scale, high achievers. The data for the average achievers will not be discussed further.
3.2.4.1 Academic Performance of Low Achievers in Comparison to Performance of High Achievers

What has surfaced from this data is the fact that there is no clear pattern in the pupils' performance. As revealed in the teacher interview data, the syllabus is the same for all schools, and the topics to be tested at any given point in the course of study are also be similar across the four schools as these would have been pre-determined by the syllabus provided by the Ministry of Education.

The percentages presented in the Tables below are based on the analysis of the pupils' end-of-year assessment results. By the end of the year, all four schools would have completed the syllabus stipulated for each of the Standards, therefore strengthening the argument that the items to be tested should be similar for all four schools, covering the whole year's stipulated topics. However, because the assessment tools are not standardized across the four schools, each school's performances over the two years differ from each other.

Table 11

Based on Performance in Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (MATH) and Science (SCI)

<table>
<thead>
<tr>
<th></th>
<th>SCHOOL A</th>
<th>SCHOOL B</th>
<th>SCHOOL C</th>
<th>SCHOOL D</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD 4</td>
<td>16.2</td>
<td>22.4</td>
<td>30.4</td>
<td>11.5</td>
</tr>
<tr>
<td>BMC</td>
<td>19.8</td>
<td>19</td>
<td>32.1</td>
<td>22.6</td>
</tr>
<tr>
<td>BMW</td>
<td>44.4</td>
<td>26.7</td>
<td>78.6</td>
<td>71.9</td>
</tr>
<tr>
<td>MATH</td>
<td>29.3</td>
<td>20.9</td>
<td>45.5</td>
<td>50.9</td>
</tr>
<tr>
<td>SCI</td>
<td>61.7</td>
<td>17.2</td>
<td>20.2</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>17.2</td>
<td>36.2</td>
<td>24.7</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>24.7</td>
<td>55</td>
<td>59</td>
<td>39.7</td>
</tr>
<tr>
<td></td>
<td>21.8</td>
<td>15.2</td>
<td>24.7</td>
<td>55</td>
</tr>
</tbody>
</table>
Table 12
Percentage of High Achievers in Standard 4 (1998) and Standard 5 (1999) Based on Performance in Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (MATH) and Science (SCI)

<table>
<thead>
<tr>
<th>SCHOOL A</th>
<th>SCHOOL B</th>
<th>SCHOOL C</th>
<th>SCHOOL D</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>10.4</td>
<td>12.1</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMW</td>
<td>13.8</td>
<td>33.6</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td>13.6</td>
<td>26.7</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>7.8</td>
<td>23.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the Standard 4 Bahasa Melayu Comprehension (BMC) assessment, for example, the percentages of low achievers differ greatly across the four schools with 16.2% in School A, 30.4% in School B, 61.7% in School C and 20.2% in School D. The differences in percentages of low and high achievers across the schools could also be observed for other subjects.

Within schools, pupils' performance between Standard 4 and Standard 5 also indicated an erratic pattern. Although a drop in poor performance might be more expected than a huge increase in good performance, it also does not seem normal statistically for performance to drop or improve five-fold over one year as can be seen in the Bahasa Melayu Comprehension performance in School C. In 1998, there were 61.7% low achievers in Bahasa Melayu Comprehension among the Standard 4 pupils in School C and in Standard 5 the percentage of low achievers among the same pupils dropped to 17.2%. This pattern could also be observed in Bahasa Melayu Comprehension performance of high achievers in
School C—from 0 in 1998 to 8.6% in 1999, and School D—from 6.2% in 1998 to 31.9% in 1999. Another observation made was that although pupils' performance in Mathematics was low across all four schools over the two years, School B's pupils had performed worst of all with 78.6% low achievers in 1998 and 71.9% in 1999. Parallel to that School B was also the only school that did not have any high achievers in Mathematics for both 1998 and 1999.

This erratic trend in the pupils' performance could be due to many reasons. First, the tools used to assess Mathematics competence for both 1998 and 1999 could have been the most difficult in School B in comparison to those used in the other three schools. Second, it could be that the pupils in School B had not fully mastered the skills or understood the lessons taught. Third, the teaching approach used at the school had not been effective.

The disparity in the performance pattern led this study to conclude that the school-based assessment tools used at these four schools were unreliable in the sense that pupils' performance or attainment level that they assessed is not comparable between schools. The lack of consistent pattern across the Standards and the schools in all four subjects suggests faulty testing instruments or at least, testing instruments that are calibrated differently in different schools, thus making any attempt to compare performance between schools unreliable and therefore, invalid. Hence, the following sections will present the four schools' bottom and top 5% pupils' performance separately.
3.2.4.2 Performance of Top 5% Pupils

The overall performance of the best 5% Standard 4 pupils indicated similar disparity across the four schools as it did in the analysis of performance of the whole Standard earlier. From the data in this section it can be seen that although they are in the top 5% of the sample, in School A, 2 (29%) performed at the B-grade level. Of the top 5% in School B and C, 100% performed at the B-grade level, and of the top 5% in School D, 75% performed at the B-grade level.

Tables 13 through 16 present data describing the academic performance of pupils in the top and bottom 5% for the four main subjects.

Table 13

School A top 5% 1998 Standard 4 and 1999 Standard 5 pupils’ Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 7)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC</td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>76</td>
<td>74</td>
<td>76</td>
<td>58</td>
</tr>
<tr>
<td>BMW</td>
<td>74</td>
<td>91</td>
<td>80</td>
<td>92</td>
<td>78</td>
<td>87</td>
<td>84</td>
</tr>
<tr>
<td>MATH</td>
<td>88</td>
<td>90</td>
<td>94</td>
<td>94</td>
<td>91</td>
<td>88</td>
<td>86</td>
</tr>
<tr>
<td>SCI</td>
<td>82</td>
<td>91</td>
<td>82</td>
<td>90</td>
<td>80</td>
<td>97</td>
<td>76</td>
</tr>
<tr>
<td>TOTAL</td>
<td>324</td>
<td>362</td>
<td>336</td>
<td>352</td>
<td>323</td>
<td>348</td>
<td>322</td>
</tr>
</tbody>
</table>
### Table 14

School B Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 4)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>76</td>
<td>76</td>
<td>86</td>
<td>90</td>
</tr>
<tr>
<td>BMW</td>
<td>76</td>
<td>66</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>M3</td>
<td>62</td>
<td>61</td>
<td>68</td>
<td>56</td>
</tr>
<tr>
<td>SCI</td>
<td>71</td>
<td>74</td>
<td>73</td>
<td>72</td>
</tr>
<tr>
<td>TOTAL (400)</td>
<td>285</td>
<td>277</td>
<td>291</td>
<td>282</td>
</tr>
</tbody>
</table>

### Table 15

School C top 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in the 4 Core Subjects; Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW). Mathematics (M3) and Science (SCI) (N = 3)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>84</td>
<td>72</td>
<td>88</td>
</tr>
<tr>
<td>BMW</td>
<td>84</td>
<td>92</td>
<td>91</td>
</tr>
<tr>
<td>M3</td>
<td>68</td>
<td>91</td>
<td>49</td>
</tr>
<tr>
<td>SCI</td>
<td>68</td>
<td>85</td>
<td>55</td>
</tr>
<tr>
<td>Total (400)</td>
<td>304</td>
<td>340</td>
<td>283</td>
</tr>
</tbody>
</table>
Table 16

School D Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) 
(N = 8)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>BMC</td>
<td>82</td>
<td>86</td>
<td>60</td>
<td>72</td>
<td>96</td>
<td>85</td>
<td>52</td>
<td>70</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1999</td>
<td>96</td>
<td>97</td>
<td>92</td>
<td>94</td>
<td>52</td>
<td>92</td>
<td>52</td>
<td>94</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1998</td>
<td>96</td>
<td>97</td>
<td>92</td>
<td>94</td>
<td>52</td>
<td>92</td>
<td>52</td>
<td>94</td>
</tr>
<tr>
<td>BMW</td>
<td>80</td>
<td>84</td>
<td>98</td>
<td>97</td>
<td>62</td>
<td>76</td>
<td>72</td>
<td>73</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1999</td>
<td>62</td>
<td>73</td>
<td>92</td>
<td>94</td>
<td>52</td>
<td>92</td>
<td>52</td>
<td>94</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1998</td>
<td>62</td>
<td>73</td>
<td>92</td>
<td>94</td>
<td>52</td>
<td>92</td>
<td>52</td>
<td>94</td>
</tr>
<tr>
<td>M3</td>
<td>88</td>
<td>88</td>
<td>85</td>
<td>83</td>
<td>80</td>
<td>78</td>
<td>93</td>
<td>80</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1999</td>
<td>80</td>
<td>78</td>
<td>93</td>
<td>80</td>
<td>85</td>
<td>78</td>
<td>80</td>
<td>83</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1998</td>
<td>80</td>
<td>78</td>
<td>93</td>
<td>80</td>
<td>85</td>
<td>78</td>
<td>80</td>
<td>83</td>
</tr>
<tr>
<td>SCI</td>
<td>80</td>
<td>79</td>
<td>90</td>
<td>84</td>
<td>78</td>
<td>74</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1999</td>
<td>78</td>
<td>74</td>
<td>90</td>
<td>80</td>
<td>78</td>
<td>72</td>
<td>68</td>
<td>71</td>
</tr>
<tr>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1998</td>
<td>78</td>
<td>74</td>
<td>90</td>
<td>80</td>
<td>78</td>
<td>72</td>
<td>68</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td>337</td>
<td>333</td>
<td>336</td>
<td>316</td>
<td>313</td>
<td>307</td>
<td>303</td>
</tr>
<tr>
<td>(400)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Standard 5, 29% of School A’s top 5% performed at the B-grade level and of the two pupils, one was the same child who performed at the B-level in Standard 4 the year before. In Schools B and C, the same pupils who performed at the B-grade level in Standard 4, remained at the B-grade level of performance in Standard 5 except for one pupil from School C who improved to an A-grade level of performance. For School D pupils, more A-grades were obtained for Mathematics than for the two Bahasa Melayu subjects. Science recorded the poorest performance among these students with only 2 As and 6 Bs, which showed a decline in performance compared to the 4As and 4Bs obtained in Standard 4.
### 3.2.4.3 Performance of Bottom 5% Pupils

**Table 17**

School A bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 7)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>TOTAL (400)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>20</td>
<td>28</td>
<td>26</td>
<td>34</td>
<td>24</td>
<td>24</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>BMW</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>10</td>
<td>12</td>
<td>20</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>M3</td>
<td>11</td>
<td>16</td>
<td>6</td>
<td>24</td>
<td>16</td>
<td>21</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>SCI</td>
<td>8</td>
<td>0</td>
<td>12</td>
<td>28</td>
<td>14</td>
<td>20</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>TOTAL (400)</td>
<td>45</td>
<td>44</td>
<td>50</td>
<td>66</td>
<td>66</td>
<td>72</td>
<td>84</td>
<td>104</td>
</tr>
</tbody>
</table>

**Table 18**

School B Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) And Science (SCI) (N=4)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>TOTAL (400)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>22</td>
<td>27</td>
<td>22</td>
<td>40</td>
<td>28</td>
<td>20</td>
<td>22</td>
<td>54</td>
</tr>
<tr>
<td>BMW</td>
<td>16</td>
<td>20</td>
<td>12</td>
<td>20</td>
<td>16</td>
<td>28</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>M3</td>
<td>15</td>
<td>18</td>
<td>14</td>
<td>10</td>
<td>12</td>
<td>5</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>SCI</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>30</td>
<td>14</td>
<td>14</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>TOTAL (400)</td>
<td>65</td>
<td>83</td>
<td>66</td>
<td>100</td>
<td>70</td>
<td>67</td>
<td>75</td>
<td>95</td>
</tr>
</tbody>
</table>
Table 19

School C Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Comprehension (BMC), Mathematics (M3) and Science (SCI) (N = 3)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>6</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>BMW</td>
<td>24</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>M3</td>
<td>14</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>SCI</td>
<td>10</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Total (400)</td>
<td>54</td>
<td>75</td>
<td>81</td>
</tr>
</tbody>
</table>

Table 20

School D Bottom 5% 1998 Standard 4 and 1999 Standard 5 Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Comprehension (BMC), Mathematics (M3) and Science (SCI) (N = 8)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>4</td>
<td>10</td>
<td>8</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>BMW</td>
<td>16</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>28</td>
<td>17</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td>M3</td>
<td>10</td>
<td>8</td>
<td>20</td>
<td>11</td>
<td>28</td>
<td>17</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td>SCI</td>
<td>8</td>
<td>6</td>
<td>16</td>
<td>15</td>
<td>0</td>
<td>11</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Total (400)</td>
<td>42</td>
<td>39</td>
<td>46</td>
<td>36</td>
<td>56</td>
<td>55</td>
<td>56</td>
<td>44</td>
</tr>
</tbody>
</table>

Again here, no clear pattern could be drawn from the bottom 5% pupils across the four schools, apart from the fact that most pupils remained at the same level of performance over the two academic years’ assessments. Comparison across the four schools indicated that some pupils showed big improvements in their
overall marks between Standard 4 and Standard 5, which further supports this study's contention that the assessment tools used to assess pupils' attainment of the topics included in the curriculum could be faulty.

In Standard 5, Pupil 2 from School A obtained four times the Mathematics marks he obtained in Standard 4. Pupil 3 of School B on the other hand performed even poorer in Standard 5 than he did in Standard 4 for the subject of Mathematics. Pupil 7 (School A), pupils 2 and 4 (School B) improved in Bahasa Melayu Comprehension from a fail grade in Standard 4 to a pass grade in Standard 5. These results provide further evidence that there might be something else that is going on beneath the superficial improvements and decline in performance of the low as well as the high achievers in these four schools. The implications of this will be discussed further in Chapter Eight.

### 3.2.4.4 Pupils' Performance by Ethnic Origin

#### Table 21

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>MALAY</td>
<td>4 (18.2%)</td>
<td>17 (77.2%)</td>
<td>5 (22.7%)</td>
<td>16 (72.6%)</td>
</tr>
<tr>
<td>CHINESE</td>
<td>10 (45.4%)</td>
<td>0</td>
<td>9 (40.9%)</td>
<td>1 (4.6%)</td>
</tr>
<tr>
<td>INDIAN</td>
<td>7 (31.8%)</td>
<td>4 (18.2%)</td>
<td>7 (31.8%)</td>
<td>4 (18.2%)</td>
</tr>
<tr>
<td>OTHERS</td>
<td>1 (4.6%)</td>
<td>1 (4.6%)</td>
<td>1 (4.6%)</td>
<td>1 (4.6%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>
As can be seen in Table 21, in Standard 4 there was a large proportion of Malay pupils (77.2% of the 1998 bottom 5% Standard 4 pupils and 72.6% of the Standard 5 pupils) who were performing below the average level of competence compared to the other ethnic groups. Most of the high achievers in the 1999 Standard 5 were Chinese (40.9%), followed by the Indians (31.8%). There was only one Chinese pupil in the Standard 5 low achievers group. Although it would not be possible to implicate poor learning on the grounds of ethnicity alone, it is clear that within this sample, the Malay pupils appear to be most at risk of school failure. It is therefore crucial that other factors that may have influenced the Malay population's academic performance be identified and addressed.

3.3 Conclusion

The findings from this preliminary investigation highlighted the following as issues pertinent to the next stage of investigation:

- that the mainstream teaching practices in schools, although in line with what was stipulated by the guidelines drawn by the Ministry of Education, have not sufficiently helped the low achievers to improve;

- that the remedial programmes provided by the school system, although a positive addition, have not made a big difference in improving the performance of low achievers;
• that because the school-based assessment tests are not standardized and possibly vary in terms of level of difficulty from school to school, they cannot present a standard measure or depiction of pupils' performance;
• that the schools' assessment produced unstable measures of performance, therefore, these performance levels alone cannot be used to define and identify poor learners.

Teachers as well as the Ministry do recognize the fact that there are pupils within the school population who have difficulties coping with learning and positive steps have been taken to address these children's needs. However, the unavailability of a clear definition of poor learners has rendered the remedial provisions not fully effective.

The school's definition of a poor learner is based on the child's consistent poor performance in school-based assessments over a period of time. However, it is not clear what constitutes 'consistent . . . over a period of time'; whether it refers to failure in two or more monthly tests, or two or more end-of-semester formal tests or even failure in all different subjects over two or more years. Furthermore, poor performance in a school-based assessment too was not clearly defined. Does poor performance cover failure in all ten subjects taught at school, or failure in the four core subjects as assessed in the PSAT, or just in Bahasa Melayu reading comprehension (since the remedial programme is synonymous with remedial reading in Bahasa Melayu)? The analysis in this
chapter showed that within the bottom 5% population of all four schools, for Bahasa Melayu Comprehension, pupils were performing below the 40 passing mark level with the exception of Pupils 2 and 4 from School B and Pupils 2 and 3 from School C.

It was also not clear whether the child's poor learning is due to language proficiency or due to lack of particular skills such as numeracy. The analysis showed that pupils in the low achievers group who failed in Bahasa Melayu also failed in Mathematics and Science. Due to the unavailability of a clearer definition and criteria for categorizing specific problems faced by the poor learners, the school could only provide reading intervention programmes in Bahasa Melayu for the poor learners.

The implementation of reading intervention programmes is a big step towards the amelioration of the situation. In cases where schools are not able to provide similar compensatory educational services, the Education Ministry should make every effort to make it available. This study has not been able to identify who among the pupils have had remedial teaching. Assuming that some of the bottom 5% pupils have been given remedial teaching, it appears that the programme has been successful albeit in a small way. The pupils in the bottom 5% generally showed improvements in performance between Standard 4 and Standard 5. However, even the bottom 5% pupils of School C, where remedial teaching is not offered, had shown general improvement in performance.
Therefore, the improvement could not be entirely due to remedial teaching alone but also due to other unidentified factors such as teaching approach or less difficult testing tools.

Based on the national statistics of primary schoolchildren's performance in Bahasa Melayu (Comprehension) at the PSAT level, even with implementation of the remedial reading programmes, 4% of the year 1997 Standard 6 pupils moved on to secondary school without having mastered the basic skill of reading comprehension in the school language (Statistics from the Examination Syndicate, Ministry of Education, 2000). This implies that for this 4% of the national Standard 6 population, their difficulties with acquiring reading skill and hence academic competence have not been addressed. Khadijah and Zalizan (1994) reported that the percentage of children with literacy-related learning problem decreases as they get older – with 35.3% identified among Standard 1 pupils, 35.2% among Standard 2 pupils and 29.3% among Standard 3 pupils. Assuming that Khadijah and Zalizan had looked at the performance of the same pupils over three years, and that the downward trend would prevail through time to Standard 6, then it could be expected that most pupils' difficulties with literacy do get remediated by the school system and practices.

Schools' remedial programmes are synonymous with reading intervention programmes. Therefore, poor performing pupils who do not have reading difficulties do not qualify for remedial teaching. However, it cannot be assumed
that all poor learners' poor performance was due to literacy-related difficulties. The analysis also revealed a gap between the number of poor learners identified by the teachers and the number of children who qualify for remedial work. This implies that the remediation of poor learners who do not qualify for remedial teaching would become the responsibility of the subject teachers. The problem would arise when most teachers are not trained to meet the needs of such pupils.

Therefore a more specific assessment tool would be needed to diagnose the different difficulties pupils may have. With a clearer and more comprehensive definition and understanding of what constitutes a poor learner, a more defined and specific identification process could be established.

The findings of this study indicate that pupils' overall performance in Bahasa Melayu was not high and did not show great improvement between one Standard to the next despite the teachers' claim that pupils do not have a problem with Bahasa Melayu whether as a school subject or as the medium of instruction. The teachers' perception that Bahasa Melayu as the medium of instruction is not a problem for the pupils is found to be at odds with the findings presented in the literature review. In addition, analysis of pupils' performance in Bahasa Melayu assessments also appears to contradict the teachers' perception to some extent. However, based on the analysis of the pupils' performance in Bahasa Melayu, a majority of the pupils are able to achieve average to excellent achievement in the subject as well as in other subjects through the medium of Bahasa Melayu.
What concerns this study is the percentage of pupils who failed in four core subjects at the end of Standard 5 (Bahasa Melayu Comprehension – 11%, Bahasa Melayu Writing – 11%, Mathematics – 32% and Science – 22.7%). The data indicated that if the performance is poor in Bahasa Melayu, their performance is even worse in Mathematics and Science. For these pupils, their problem could be due to their lack of proficiency in the medium of instruction which makes comprehension in Science and Mathematics more difficult, or they could have other problems unidentifiable by the assessment tools used by the school.

This finding led to the conclusion that children who enter school with low proficiency in the academic usage of Bahasa Melayu are likely to face difficulties with academic instruction (as supported by Collier, 1995; Cummins, 1994; Wong-Filmore, 1991). The difficulties they face with the language is likely to frustrate their efforts at acquiring learning as they are not getting help with managing Bahasa Melayu as the language through which teaching is given. Therefore their limited proficiency in the school language results in poor academic skills acquisition, which in turn results in poor academic achievement. As these patterns become deeply entrenched, motivational factors can be internalized, possibly affecting the children's general development, and resulting in further frustration and anxiety (Lloyd et. al., 1991). The children therefore may lose interest in learning, as they cannot understand what is going on in the classroom. This crosses over to other subjects resulting in overall poor performance.
It is also the contention of this study that the characteristics teachers use to identify poor learners, such as not completing homework, not coming to school, not paying attention in class, not able to pass school assessment tests, should not be taken to be the cause of poor academic achievement. Rather these characteristics should be taken to signal that the child is possibly not fully equipped to function or perform academic tasks, may be due to poor acquisition of school language, or due to other yet to be identified factors.

Based on these findings, the following decisions were made as to how the next stage of the investigation should proceed:

- From the teacher interview, it was clear that the school is not wholly responsible for poor academic achievement. Furthermore, the literature reviewed has established that there are other intrinsic factors such as home (Merttens, 1993; Tiederman and Faber, 1992; Grinder, 1990), socioeconomic status (Crane, 1996; Crinic and Lamberty, 1994; Ramey and Ramey, 1994), and language-use (Cummins, 2001; Baker, 2000; Gibbons and Lascar, 1998) that may also influence academic achievement. Therefore the main study proceeded to seek information pertaining to these other factors and to determine which among them are strongest in influencing academic achievement. Once the factors had been identified they were used to draw a more comprehensive profile of a poor learner.
• It was discovered that the Standard 4 and 5 examination results were inadequate in terms of performance data because the pattern in performance observed over 2 years was not clear enough. Therefore the decision was made to include performance data for Standard 6.

• Furthermore, the pattern that was extracted from the analysis of the performance data in the preliminary study suggests that the school-based evaluation instruments were not very reliable. The decision was made, therefore, to include the national PSAT results as comparison. The PSAT, unlike the school-based assessment tests, is a standardized form of assessment and therefore could provide a truer depiction of the pupils' attainment level at the end of Standard 6.

• The school grading system was also found to be unsatisfactory in describing an individual pupil's performance in comparison to the rest of his Standard—therefore there is a need to develop a new way of categorizing the pupil sample into performance groups.

The ensuing chapters will hence present how the second stage of investigation was carried out, the method of investigation used, the data and its analysis, the result and its implication. Chapter Four that follows will begin with presenting the methodology used.
CHAPTER FOUR

THE MAIN STUDY: METHODOLOGY

4.0 Purpose of the Main Study

The preliminary investigation revealed that schools in Malaysia do not have a clear way of identifying and defining poor learners. Specifically, the school defines poor learners as pupils who have been, over a period of time, consistently performing below the pass grade in school-based assessments. Since this is the definition used at the school, this current study will use the same definition prior to suggesting a more comprehensive profile of a poor learner.

This study will do a critical analysis of the way schools use the school-based assessment to measure pupils' performance and attainment level. It is hoped that the study will be able to recommend an alternative way of categorizing pupils by their performance levels in school-based assessments.

4.1 The Research Questions

When talking about poor performance the first place to investigate would be the school and what goes on at school. This had been done in the preliminary study. The literature review then had brought to light various other factors beyond the
school that also influence academic performance. These factors included those related to the pupil such as gender, ethnicity, socioeconomic status, school, home, and language-use pattern. Guided by the findings of the preliminary study and the issues raised from the literature review, the following research questions were formulated as the perimeters for the next stage of investigation:

1. Which factors could be used to characterize a poor learner?
2. How reliable is the school's method of measuring academic performance:
   - Do the school-based assessment results correlate with the PSAT results?
   - Does the academic performance of a child who has been identified to be a poor learner improve over time?
3. To what degrees do the gender, ethnicity, home, school, language, and socioeconomic status factors individually influence academic achievement?
4. What research design can be used to identify the relationships that exist between the different variables that affect performance?
5. What statistical model can be used to reliably identify/predict poor learners?

### 4.2 Aims of the Main Study

The main study was designed to address the following aims:
To gather relevant data encompassing six factors related to academic outcome: gender, ethnicity, socioeconomic status, school, home, and language-use pattern.

To identify, within these six factors, variables that may have influence on academic outcome.

To ascertain the relative impact of the variables identified on academic outcome.

To develop a descriptive checklist that can be used to characterize a poor learner based on the results of the statistical analysis of variables identified.

To gather information on language of instruction as an influence on achievement.

To make proposals towards the enhancement of academic achievement among primary school pupils learning in a multilingual environment.

4.3 Research Design

The research design consists of three sets of data:

- Pupils' performance in end-of-year school-based assessment tests for four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science) over three academic years (1998, 1999, 2000), together with their year 2000 PSAT results for the same four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics...
and Science) were used as the basis for measuring pupils' academic achievement. A detailed description of this categorization procedure is presented in section 4.5.4.4 in this chapter.

- Information gathered from the participants through the survey was organized into specific groups of variables so as to enable the application of appropriate statistical analysis. The statistical analysis was used to identify those variables that influence academic achievement and determine the extent and direction of their influence. A detailed description of the procedures for organizing and analyzing the survey data is presented in section 4.5.4.5 below.

- The variables that had been identified and determined were then used to build a list that would characterize the poor learner, encompassing the following factors: gender, ethnicity, socioeconomic status, school-related, home-related, and language-use patterns. This procedure is discussed in detail in Chapter 6.

The preliminary study and the literature review have brought to conscious attention two main issues, which are of integral importance to the design of this study:

(a) That while existing studies have identified a number of factors that seem to have an integral relation to the academic performance of pupils, their explanatory power is limited. Their research questions appear to the present researcher to be limited in that their research
attention is trained at the target of determining whether, how or to what extent one or more of these factors affects performance. They do not address the issue of drawing out a holistic model that will look at the dynamic interrelationships that exist between these factors and how they combine to orient the direction in which a pupil’s academic progress will take.

(b) That few of the existing studies actually looked critically at the research journey, the method by which a model for reliably predicting—and intervening in—academic success or failure.

The purpose of this study, therefore, is to use the existing insights gathered through the preliminary study and the literature review—particularly the factors shown to be integrally related to academic success—to devise a model for predicting poor learners so that preventive or compensatory measures for the at-risk of failure and remedial measures for those already failing can be instituted. It is thus the main purpose of this study to use the model to ‘arrive’ at a more comprehensive description of the poor learner. To accomplish this purpose, this study will employ a two-pronged approach:

1. Collect survey and performance data to corroborate the relevance of existing research methodologies for the study of performance among Malaysian primary schoolchildren.

2. To use an appropriate statistical procedure to integrate the different factors into a holistic model. Figure 1 is the heuristic representation of this approach.
Figure 1: Research Design Model

RESEARCH DESIGN

EXPLORATORY APPROACH
(Preliminary study)

SURVEY APPROACH
(Main Study)

Secondary data obtained to gain insights before an approach can be developed for the main study.

Qualitative analysis of:
- Structured Interview Responses
- Questionnaire (Objective Facts) Responses
- Pupils' Examination Results (Frequencies)

Quantitative analysis of:
- Questionnaires
- Pupils' Examination Results

DESCRIPTIVE STATISTICAL ANALYSIS

To describe and transform data into a form appropriate for further statistical analysis.

THE POOR LEARNER CHECKLIST
(Characteristics derived from variables associated with poor performance)

LOGISTIC REGRESSION MODEL

(Mathematical equation for predicting pupils' dichotomous performance levels—Poor/Not Poor)

INFERENTIAL STATISTICAL ANALYSIS

Inferring strength and pattern of relationships between variables
4.4 The Participants

Four sets of participants were involved in the main study:

- The four national primary schools used in the preliminary study.
- 409 Year 2000 Standard 6 pupils from these four schools.
- The pupils' parents.
- The pupils' teachers.

4.4.1 The Schools

As the four schools used in the main study are the same four schools used in the preliminary study, the description of the schools and the rationale for their selection has already been presented in section 3.1.1.1 of Chapter Three.

The preliminary study did not make any contact with the pupils; only their Standard 4 and Standard 5 end-of-year school-based examinations results were obtained for analysis. As already mentioned, the preliminary study discovered that two years' examination results were not sufficient to draw the pattern in pupils' academic performance. Therefore in this main study, an additional year's examination results (Standard 6) were included in the analysis.

The pupil sample therefore, consisted of 409 Standard 6 pupils (academic year 2000) from the same four schools used in the preliminary study. Of the 409
pupils, 276 (68%) were boys and 133 (32%) were girls. The pupils consisted of
children from a wide range of ethnic groups, representative of the country's multi-
ethnic population, where 254 (62%) of them were Malays, 68 (17%) Chinese and
87 (21%) Indians.

4.4.2 The Pupil Sample: Rationale for Inclusion of Standard 6 Pupils

An integral part of this study's research design is the pupils' examination results,
which are used as the measure of academic performance. Instead of
backtracking to the pupils' Standard 3 examination results, their Standard 6
results were decidedly the more logical choice for various reasons.

Firstly, Standard 6 is the last year of primary school education and as academic
achievement is the main focus of this research, it seemed suitable to investigate
how well prepared these children are academically for the secondary school
curriculum after six years of preparation in primary school.

Secondly, the preliminary study had begun with the analysis of the Standard 4
examination results, (Standard 4 being the stage where pupils begin the Phase II
of the NSPC), followed by the analysis of the results of the next Standard up,
Standard 5. Therefore, it would not be logical to include the Standard 3
examination results in the main study because in Standard 3, pupils are
assessed based on the subjects taught at Phase I of the ICPS.
Thirdly, findings from the preliminary study also showed that the school-based assessment tests might not be very reliable as the tools for the measurement of performance. Therefore the Standard 6 PSAT results were also included in the main study, as it is the only standardized form of assessment available within the Malaysian primary school assessment system.

Finally, when conducting the main study in the year 2000, the pupils whose Standard 4 and Standard 5 examination results were analyzed in the preliminary study, were at that point already in Standard 6. As the research design of the main study required obtaining specific information from the same body of pupils themselves, the Standard 6 pupils were selected as the pupil sample.

Chapter Five will provide a detailed description of the pupil sample in terms of their gender, ethnicity and performance level categories.

4.4.3 The Parent Sample

Parents of all the participating pupils were invited to complete a questionnaire about the learning environment at home, the family’s linguistic and socioeconomic backgrounds, and their views on the learning environment provided by the school.
In this research, a parent was defined as both the mother and father as a joint entity, or either the father or mother in cases of children from single-parent backgrounds. The parent questionnaires were sent out to all the pupil sample's parents and 65% responded by returning the completed questionnaires. Therefore, the parent sample consisted of 265 parents.

4.4.4 The Teacher Sample

All national schools in Malaysia follow the same guidelines on school practices as provided by the Ministry of Education. Although this information can be obtained from literature available from the authorities, it was important for this study that information related to the actual school system and practices was obtained directly from the staff in the schools. For this purpose, all teachers involved in the education of the pupil sample were invited to participate. Therefore, the teacher sample comprised of 41 teachers from the four schools.

4.5 The Research Tools

The research tools consisted of:

- Government policy documents (for relevant additional information only);
- The pupils' end-of-year school-based and national examination results;
- Three sets of questionnaires: pupil questionnaire, parent questionnaire, and teacher questionnaire.
4.5.1 Government Policy Documents

As in the preliminary study, government policy documents are not research tools per se, but were obtained to gather more information about school practices and to ascertain whether what have been established in these documents were actually practised at the schools. Information from these documents will not be analyzed together with the survey and pupils’ examination performance data. They will, however, be included in the discussion of the findings.

4.5.2 Pupils’ Examination Results

Pupils' examination results came in two forms:


- National Primary School Assessment Test (PSAT) results for the year 2000 for the same four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science).

The school-based assessment results were used:

- to categorize pupil sample into four performance level categories: Poor, Average, Good, and Excellent; hence identifying the group of pupils who fit the school's definition of a poor learner.
• to describe pupils' achievement patterns across four subjects over three consecutive years in relation to the six factors identified earlier—gender, ethnicity, socioeconomic status, home, school and language-use.
• as a measure of academic outcome in the logistic regression model.

The PSAT results were used to compare pupils' performance in standardized tests with their performance in school-based tests.

4.5.3 The Questionnaires

Three questionnaires were designed to obtain information pertinent in addressing the research questions listed in section 4.2 above. The English language version of the questionnaires can be seen in the appendix:

1. Pupil Questionnaire (Appendix 7)
2. Parent Questionnaire (Appendix 9)
3. Teacher Questionnaire (Appendix 11)

4.5.3.1 The Development of the Questionnaires

It was essential that the questionnaires were developed in both Bahasa Melayu and English. Although the pupil sample included children whose first language might be Tamil or Mandarin, questionnaires in these languages were not prepared because as stated earlier, the researcher is conversant only in English
and Bahasa Melayu. This would not pose a problem because the Tamil and Mandarin first language speakers should be able to understand either English or Bahasa Melayu or both since they are enrolled in Bahasa Melayu-medium schools. Nevertheless, as a precaution against pupils not understanding the language of the questionnaires, careful attention was paid to keeping the language used in the questionnaires as clear and simple as possible.

Furthermore, since the researcher herself administered the questionnaires, any problems the pupils might have, were dealt with while they were doing the survey. However, where the parents were concerned, it was not possible for the researcher to be present while they were responding to the questionnaires as the questionnaires were sent to their homes via their children. So the researcher provided the parents with a telephone number where she could be contacted if they had any problems with the questionnaires.

It was important that the questionnaires would not take too long for the participants to complete. Keeping the questionnaires concise would lessen the risk of losing participants who may be too busy to participate. One way of ensuring a good response rate was to include only the most pertinent questions. Another way was by minimizing the amount of writing and asking the participants to mark in an appropriate box or circle the appropriate response. For the children, in an effort to make the questionnaire look less like a test and therefore
more appealing, popular cartoon characters were drawn in the margins of every page.

Once the questionnaires had been developed they were piloted in Malaysia. The pilot questionnaires can be seen in the appendix:

1. Pilot Pupil Questionnaire (Appendix 6)
2. Pilot Parent Questionnaire (Appendix 8)
3. Pilot Teacher Questionnaire (Appendix 10)

4.5.3.2 Piloting the Questionnaires

The Pupil Questionnaire was piloted on twenty twelve-year-old pupils. The pilot pupil sample consisted of children whose parents were lecturers at the Faculty of Languages and Linguistics, University of Malaya (nine children), and also children of the kitchen staff at one of the residential colleges (eleven children) of the same university. Since it was not possible to gather the children to complete the questionnaire in one session, the pilot exercise was carried out in two sessions. The children took 40 minutes to complete the questionnaire. The children mainly complained that the questionnaire was too long. Questions raised by the children were noted and later incorporated into the revised version of the questionnaire, where appropriate. All twenty children completed the Bahasa Melayu version of the questionnaire.
The Parent Questionnaire was piloted on three groups of parents who are staff and students of the University of Malaya:

1. Group A comprised five lecturers.
3. Group C comprised seven residential college kitchen staff.

A total of forty parents participated in piloting the Parent Questionnaire. Out of the forty parents, nineteen also completed the Teacher Questionnaire, as they are parents who are also primary school teachers taking time out from teaching to obtain their degrees. Both the English language and Bahasa Melayu versions of the Parent and Teacher Questionnaires were made available to the pilot sample.

As participants in Group C were not well versed in the English language, they chose to complete only the Bahasa Melayu version of the Parent Questionnaire. Participants in Group A volunteered to pilot both the Bahasa Melayu and English language versions of the Parent Questionnaire. With the participants in Group B, twenty completed the Bahasa Melayu version and twenty completed the English language version of the Parent Questionnaire. Among the teacher sample, ten completed the Bahasa Melayu version and nine the English language version. Comments and criticisms from the pilot parent/teacher sample included suggestions on how to better structure the questionnaires, improve on the length
and clarity of language used in individual items, as well as translation suggestions between Bahasa Melayu and English.

All adult participants were asked to indicate on their individual questionnaires the time they took to complete the task. They were also encouraged to write their comments and criticisms about the questionnaires. On an average the Parent Questionnaire took 35 minutes to complete and the Teacher Questionnaire, 15 minutes.

The following sections will describe the changes made to the questionnaires and the procedure for their administration in detail.

4.5.3.3 The Pupil Questionnaire: The Piloting and Restructuring of the Final Version

The pilot Pupil Questionnaire consisted of 50 items and as mentioned earlier it took the children 40 minutes to complete the questionnaire. Based on the questions raised by the children in the pilot exercise, revisions were made on the pupil questionnaire accordingly.

Other than the changes to the content of the questionnaire, the numbering of the items in the final version was also changed. Furthermore, in the final version, the items were organized into 4 sections:
1. Section A: Getting to know you.
2. Section B: About your activities at home.
3. Section C: About your learning habits.
4. Section D: About your language-use pattern.

The final version of the Pupil Questionnaire comprised 41 items, and had been prepared in both Bahasa Melayu and the English language.

4.5.3.4 The Parent Questionnaire: The Pilot and Restructuring of the Final Version

The Parent Questionnaire, as administered to the pilot sample consisted of 42 items organized in 3 parts:

1. Part A: (Questions 1 to 17) sought information on the family’s background.
2. Part B: (Questions 18 to 33) sought information on the child’s schooling.
3. Part C: (Questions 34 to 42) sought information on the family’s language-use pattern.

Based on the comments and suggestions of the pilot sample, relevant changes were made on the pilot questionnaire.
In order to reduce the amount of reading time for the parents, some of the items that required them to choose appropriate responses from a choice of four or five were restructured as items that required them to write down the appropriate response.

Another step taken in order to reduce the time required to complete the questionnaire was to omit from the Parent Questionnaire, some of the items that were already in the Pupil Questionnaire.

Finally, unlike the pilot questionnaire, which consisted of 3 parts (Part A, B and C), the final version reorganized the items into 4 parts:

1. Part A: Personal details
2. Part B: Language use
3. Part C: The child’s activities at home
4. Part D: Miscellaneous information

With this reorganization, the final version had direct, less challenging items at the beginning and the end of the questionnaire, and the more crucial items in the middle. This strategy was employed to minimize the risk of losing the more crucial information should the respondents decide not to complete a lengthy questionnaire. The final version of the Parent Questionnaire consisted of 36 items. The questionnaire was prepared in Bahasa Melayu and English.
4.5.3.5 The Teacher Questionnaire: The Pilot and Restructuring of the Final Version

The pilot questionnaire consisted of 30 items covering teachers' personal details, professional background information, and their opinions on pupils, work, and school practice. Although there were not very many comments from the pilot sample about the length and content of the questionnaire, the final version was made shorter and less wordy.

The final version of the Teacher Questionnaire consisted of 20 items, 7 of which required them to fill in short responses while the remaining 12 items required them to tick the appropriate boxes. The questionnaire required about 15 minutes to complete.

4.5.4 Procedures

4.5.4.1 The Pupil Questionnaire: Procedures for Administrating the Final Version

The researcher administered the questionnaire to the pupils class by class and was present throughout every session to clarify any difficulties the pupils had concerning the questionnaires. The two pupils, who completed the English Language version, did so together outside of the class sessions with the researcher present throughout the session to answer their queries.
The final version of the Pupil Questionnaire was expected to take about 30 minutes to complete because it had been restructured to be shorter and would require less reading and processing of information. However, in the actual classroom administration it required between 40 to 60 minutes to complete.

Permission to carry out this research was granted with the proviso that no interruption should be imposed on the Standard 6 pupils and teachers until they have completed the Primary School Assessment Test (PSAT). It therefore took two weeks to cover all eleven classes of Standard 6 pupils.

Pupils who were absent on the day the questionnaire was administered completed the questionnaire when they returned to school. In total, 47 pupils from the four schools were absent on the days the questionnaires were administered. Only 9 of the 47 absent pupils could be located in the follow-up; 2 of them completed their questionnaires on their own at home and 7 of them completed theirs together with the researcher during free periods at school. Therefore the total number of completed questionnaires was 409 out of 447, which is a response rate of 91%.

4.5.4.2 The Parent Questionnaire: Procedures for Administering the Final Version

At the end of each session with the pupils, they were each given a package to take home for their parents. The package for parents comprised:
1. The Parent Questionnaire

2. A short letter explaining the research and the purpose of the questionnaire,

3. An invitation to participate in the research,

4. The researcher’s contact number, in case parents needed extra information on the research or clarification about the questionnaire.

The Bahasa Melayu version of the Parent Questionnaire was included in the parent package although parents were informed that an English Language version could be supplied to them should they prefer it.

The Parent Questionnaire was designed to be completed jointly by both parents where applicable and was expected to take between fifteen to twenty minutes to complete. The questionnaire comprised 36 items, two-thirds of which required them to tick the appropriate boxes and the remaining one-third to be filled in with brief responses.

Pupils were asked to remind their parents that the completed Parent Questionnaire should be returned to the researcher via their child’s class teacher within a week.

The initial response rate from the parents was 23%, which was quite low (only 95 out of 409 returned their questionnaires). So a second round of the parent packages was distributed. At the end of the second round, an additional 105
British O-level. The SPM is also the minimum requirement to qualify into teacher training courses and all eight respondents had obtained their teaching certificates from government Teacher Training Colleges. Although teachers in Malaysian schools have been known to teach subjects they had not been trained to teach (personal communication), all the teachers in this sample were teaching subjects they were trained to teach.

In terms of their linguistic background, the data indicate that the entire teacher sample were Bahasa Melayu-English bilinguals. Furthermore, all the Bahasa Melayu subject teachers were native speakers of Bahasa Melayu.

3.2.3.2 Assessment Procedure of Pupils’ Academic Performance

All four schools administered three types of assessments spread out across the 210 days of the academic year. In each school, teachers teaching the same subject worked as a team under one team leader. At the beginning of each academic year, the team would meet to decide on their target for that year. The targets included:

- the number of informal and formal assessments to be given,
- dates on which they were to be given,
- topics to be covered,
• dates as to when drafts of test papers were to be handed in to be vetted by the Senior Assistant,
• who should set the tests and
• other matters related to the teaching and assessment of the subject.

Although the standard procedure was for the Senior Assistant (Administration and Curriculum) or the Headmaster/mistress to vet all formal test papers before they were printed and given to the pupils, this procedure was sometimes not followed. Although they were aware of this vetting procedure, five of the respondents did not get the headmaster to check the drafts of the examination papers but did it among team members themselves.

All four schools administer three types of assessment in one academic year—monthly tests, formal tests, and school-based attainment tests. All pupils in all the classes in the same Standard of each school will be given the same test regardless of their individual ability levels.

The monthly test is usually administered at the end of every month. It is an optional practice and left to the subject teachers’ discretion whether to use it or not. The test is set, administered and graded by the subject teacher. Items tested in monthly tests are based on topics covered within that particular month. The function of this monthly test is to monitor pupils' current attainment level. The results of the monthly test allowed teachers to provide necessary remedial
teaching to overcome any problems before they go on to new topics the following month. According to the teachers, sometimes it is not possible to give a monthly test when, for example, there are too many public holidays in that month. When this happens topics covered in that month would be added to the following month's topics and the test given then. Children would take their corrected test papers home for their parents to sign as a way of acknowledging that parents had been informed of their children's progress.

The Formal Test is administered at a scheduled time (usually every third or fourth month) to all pupils following formal examination procedures. Examination papers are set by the subject teacher and checked by the team leader. The formal test assesses pupils' understanding of the topics taught over the three months. The results of this formal test enable teachers to identify pupils who may have problems attaining satisfactory progress. From this point teachers monitor the future progress of pupils who have not shown any or little improvement in grades.

The School-based Attainment Test (SAT) is administered at the end of each semester. The first semester SAT assesses the children's attainment level over the first six months of the year and the second SAT assesses the children's overall attainment level on topics covered over the whole year. Other than assessing children's overall progress, the result of the first SAT is used to identify poor learners (defined as those whose overall performance has been below the passing grade). At this point, in schools where remedial programmes are
available, teachers use the SAT results to identify pupils needing remedial education.

In the following semester, the same assessment procedure is carried out—monthly tests, followed by formal tests and finally the end-of-year SAT. It is also the practice in the four schools to use the end of the year SAT results to stream the children for the next academic year.

All eight teachers support using examination results for streaming pupils according to academic performance. The consensus is that streaming worked well for both the pupils and the teachers. In a mixed ability class, the teachers felt that the good pupils would eventually lose interest if the teacher had to frequently slow down for the poor learners. Streaming has been working well for the teachers because it helps to make teaching and monitoring pupils' needs easier. Since there could be up to fifty pupils in one class for larger schools such as Schools A and D, it is agreed that it would be difficult to provide quality teaching to mixed ability groups. Teachers also said they would have to spend a lot of time preparing materials of different levels of difficulty to cater to the needs of children of differing abilities. It is felt that teachers would be able to provide more challenging tasks for pupils knowing that every child in that class should be able to accomplish the tasks set. For the less able pupils, the teachers felt that they could pace their teaching and materials to meet the pupils' needs.
Respondents were asked to state the functions of the various types of assessments, and the result is summarized in Table 8 below. The responses to this item of the interview were grouped under seven common themes. The frequency of a response was counted and ranked starting from the most frequently observed response. Each respondent provided more than one response.

Table 8

Functions of School Assessment: Respondents’ Perception
(N = 8)

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stream pupils according to achievement level</td>
<td>8</td>
</tr>
<tr>
<td>To assess current learning/how much of what has been taught recently</td>
<td>6</td>
</tr>
<tr>
<td>has been learnt</td>
<td></td>
</tr>
<tr>
<td>To assess overall ability/how much of what has been taught since</td>
<td>4</td>
</tr>
<tr>
<td>Standard 1 has been learnt and utilized</td>
<td></td>
</tr>
<tr>
<td>To identify areas/topics still unclear to pupils so teachers can review</td>
<td>3</td>
</tr>
<tr>
<td>the topics</td>
<td></td>
</tr>
<tr>
<td>To identify poor learners for remedial programmes</td>
<td>1</td>
</tr>
<tr>
<td>To provide pupils with practice at taking exams</td>
<td>1</td>
</tr>
</tbody>
</table>

From the data it is deduced that the four schools do not use school-based assessments to specifically identify “poor” learners. The identification of poor learners is actually only one of the products of the analysis of the pupils’ examination results.
3.2.3.3 Identification Procedure and Definition of Poor Learners

All eight respondents indicated that if they were asked to look out for "poor" learners, they could identify them. The first and most obvious way according to the teachers is to look at the pupils' performance in the various school assessment tests. Respondents indicated that they defined poor learners as those pupils who consistently fail in all subject assessments.

The respondents estimated that in each Standard, there would be about 10% to 15% poor learners. Respondents also indicated that the percentage of poor learners would decrease to about 5% to 10% as the children progress to Standard 6. The teachers' perceive that, through their observation and experience, at least 5% of the pupils identified as poor learners continue to perform at the fail-grade throughout their primary school education. It must be noted here that this figure was not based on any school statistical records, but are estimates to the best of the respondents' perception as subject teachers.

3.2.3.4 Characteristics of a Poor Learner

As part of the characterization of a poor learner, respondents were asked to rank the school subjects poor learners would find difficult, starting with the most difficult. The ranking was based on the teachers' perception of the pupils' ability. Table 9 below summarizes the findings:
What can be seen from the data is that teachers perceive the poor learners in Standard 4 of Schools A, B, and C to have found Science and Bahasa Melayu more difficult than Mathematics, and the situation would remain the same when they had moved to Standard 5. Although the teachers in School D perceive their poor learners as finding Bahasa Melayu the least difficult subject in Standard 4, but they found it more difficult when they move to Standard 5. Since the teachers generally characterized poor learners as having poor literacy and numeracy skills, they also perceived that the poor learners would find subjects that required such skills as reading and numeracy, difficult. Science is a new subject introduced to Standard 4 under Phase II of the ICPS, therefore it is expected that all pupils would find it difficult. It is the same with Bahasa Melayu. From Standard 4 through Standard 6, the subject Bahasa Melayu is taught as two components, Comprehension and Writing. Teachers indicate that pupils, and especially those poor learners who have not yet mastered reading, usually find the Writing component more difficult than the Comprehension. From Standard 1 through Standard 3, the writing is guided (completing sentences,
filling in blanks, rearranging sentences into correct sequence or writing using pictures as clues). The writing component for Standard 4 includes unguided compositions, letter writing, summary writing, composing greeting cards and poems. In the comprehension component pupils are assessed on their reading, and aural and written comprehension. Aural comprehension includes understanding specific questioning techniques, listening to stories told by their teacher and their peers, poetry recitation and group discussions. Reading comprehension includes interpreting non-linear text such as graphs, charts and maps, story prediction, and techniques to support or refute statements.

The factors respondents use as indicators of poor learning can be categorized into four common themes. First, all of the respondents indicated that the best indicator of poor learning is the pupils’ attainment pattern in school assessments. Based on experience, respondents made the observation that poor learners consist of those who consistently obtained fail grades in almost all subjects and in all school assessment tests. Respondents indicated that the main reason for the pupils’ failure is their inability to read and understand test papers. They would either send in an incomplete answer script or when it is a multiple-choice type of test, they would make wild guesses, which were often wrong. This type of behaviour is also extended to their class work—seven of the respondents observed that poor learners work much slower and most of the time would hand in incomplete and untidy work.
Secondly, poor attitude towards school and learning were seen as indicators of poor learning. In relation to this, five of the respondents observed that poor learners often came to school unprepared. They would often forget to bring some of their books and equipment, and their books were torn and untidy. In class they were disruptive, not paying attention, disturbing other pupils and doing other things when they were supposed to be listening to the teacher or finishing their work. Some poor learners, however, according to two of the respondents, have been observed to be quiet and passive during lessons. They did not take part in class activities and often avoided eye contact with the teacher. In addition to that, two of the respondents described poor learners as distracted, indifferent to learning, and frequently absent from school for many days without reason. They also described poor learners as appearing tired and uninterested in their surroundings.

Thirdly, parental attitude may sometimes indicate poor learning among pupils; and two of the respondents felt that if parents took more interest in their children's schooling and welfare, there would be fewer cases of poor learning. They felt that parents should do their part at home so that when the child arrived in school, the child was ready for learning.

And finally, according to one of the respondents, some poor learners performed poorly in school because of some emotional problems they have at home, for example, parents' were too busy or parents were recently divorced or constantly fighting with each other.
3.2.3.5 Provision for Poor Learners

All eight respondents indicated that the only provision available that offers help to poor learners was the remedial programme. The two respondents from School C, where there was no remedial programme due to lack of resources, felt strongly about one being set up as soon as possible.

Apart from the remedial programme, Table 10 summarizes the frequency of classroom-based activities provided for poor learners. The responses (from the eight respondents) were grouped under three main themes and ranked according to degree of frequency.

Table 10

Classroom Based Activities for Poor Learners: Respondents’ Perception (N = 8)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide extra exercises and help in class</td>
<td>7</td>
</tr>
<tr>
<td>Nothing much a teacher can do in class</td>
<td>6</td>
</tr>
<tr>
<td>Provide advice and counseling</td>
<td>4</td>
</tr>
</tbody>
</table>

Respondents indicated that extra help in class involved providing practice exercises more suitable to the poor learners' level of understanding or by taking the time to explain difficult concepts through a different approach. In order to do this during normal teaching time, respondents said they had to resort to assigning work to the average pupils while they focus on the poor learners. All eight respondents indicated that they were aware this would slow down the
progress of the average as well as the excellent pupils, but they could not see any other way to handle the problem, as their contact time with the pupils was limited.

Making pupils feel that teachers do care about them and wanted to help them is part of the teachers’ role. Four of the respondents believed that it was important that pupils, especially the poor learners, knew this. Care was shown through frequent counseling sessions with pupils, providing constant motivation and aiding them to manage their time and to develop good study habits.

Where available, teachers tended to depend on the remedial programme to handle the difficulties poor learners have with their learning. Apart from giving extra help to poor learners during class time, seven of the respondents indicated that there was nothing much a teacher could do to help the poor learners overcome their problems. These respondents indicated that the large class sizes and the pressure of completing the syllabus within the stipulated time did not allow them the flexibility to cater for poor learners’ needs. If given the opportunity to decide on the type of help the school could provide for poor learners, five of the respondents indicated that the remedial programme would be the best way. However, they also felt that the administration of the programme could and should be further improved so better services could be provided to poor learners. Improvements suggested were in the following areas:
• **The criterion used for selection into the remedial programme**

According to three of the respondents, the existing test used for selecting pupils for remedial programme excluded many pupils whom teachers have recommended for remedial work as based on the selection criteria they did not qualify. Yet many of these pupils were not able to cope with the content and pace of mainstream teaching.

• **The time of testing and selection into the remedial programme**

Two respondents recommended that the selection process for remedial programme should begin from Standard 1, or as soon as the subject teacher began to notice a problem in a pupil. Based on the current practice, pupils are only recommended for remedial programmes from Standard 4 onwards.

• **The design of the programme and its activities**

Two respondents would like to see separate programmes designed for pupils from different Standards and to have the remedial programme work in line with the mainstream syllabus content, in place of the current system where poor learners are grouped together and given the same set of activities regardless of their age or ability level.

• **The training programme for remedial teachers**

According to one of the respondents, it is important to appoint fully qualified remedial teachers. This implied that generally teachers do not think that remedial teachers need special training and are therefore not aware of the seriousness that should be put into planning the
management of children with difficulties in learning. The current practice in schools was that the headmaster/headmistress would appoint one of the staff members, usually a Standard 1 teacher, to be the remedial teacher. Although the appointed remedial teacher will first attend workshops on remedial programme organized by the Ministry of Education, the workshops only provided guidelines on how to administer the selection test and how to carry out activities designed by the Ministry.

- **The content of remedial programmes**

  At present, the remedial programme covers reading, writing and arithmetic skills in Bahasa Melayu only. Remedial programmes, according to one of the respondents, should include English language as well, implying that others seven do not think it necessary to provide remedial classes in English.

- **Training for mainstream teachers**

  Two of the respondents indicated that if teachers were expected to teach poor learners alongside more able learners in the mainstream class, then they should be trained to meet the needs of poor learners. All the respondents would also like to be provided with teaching materials more suitable for poor learners and not have to pay for the cost of materials themselves.

Finally, although the entire sample were of the opinion that most parents tended to depend too much on the school to educate their children only one teacher
suggested that parents of poor learners should be educated and informed of ways in which they could help their children at home. This implies that there are teachers who are not aware of the things they can do, or can suggest that parents could do, to help poor learners, especially in the absence of more structured remedial provisions.

3.2.3.6 Teachers' Perception of Pupils' Language-use Patterns

Respondents in all four schools stated that pupils and teachers use Bahasa Melayu most of the time inside and outside of class. Two respondents from School B indicated that they have used some English during Mathematics when non-Malay pupils found some concepts explained in Bahasa Melayu difficult to understand. One respondent in School A said she would deliberately use English during Art lessons because she wanted her pupils who were all Malays to have more opportunity to practise their English language skills.

Respondents have also observed some pupils speak in their home languages in class. Although it is not school policy, five of the respondents said that during lessons conducted through the medium of Bahasa Melayu, no other language is allowed, but outside of class time pupils are free to use any language of their choice. The teachers said they do this to ensure pupils use standard Bahasa Melayu more and the more they use it the faster they will master it.
All respondents observed that in general, pupils who share the same home language tended to group together and often speak to each other in their common language, especially the Malays and the Indians. Malays, Indians and Chinese who speak English or a mixture of English and mother tongue at home were observed to be more likely to have friends of different ethnic groups and they speak English or English and Bahasa Melayu with each other. Indians, Chinese and Malays who do not share the same home language and are also not comfortable with English were observed to group only with friends of the same ethnic group. When they do have to speak to friends who are of another ethnic origin, they use Bahasa Melayu. All respondents observed that a majority of Chinese pupils do not speak Chinese. They use either English or Bahasa Melayu or both, even when speaking to other Chinese friends.

Six respondents from Schools A, B and C collectively said that most Malay pupils are more comfortable speaking in Bahasa Melayu except for those few who speak more English at home. But the two respondents from School D observed that the majority of pupils at School D speak, wherever possible, more English than any other language. Based on the information in Table 5, School D has a larger proportion of Chinese and Indian pupils in comparison to the other three schools. As stated by the respondents earlier, most Chinese appear to feel more at ease communicating in English than other languages. It is also the two teachers' (from School D) observation that, most pupils from this school come from affluent family backgrounds with educated parents and they speak more
English. Nevertheless, the teachers at School D noted that although their pupils prefer to speak English more, most have had no problem with Bahasa Melayu or learning through Bahasa Melayu. The data do appear to suggest that children who come from bilingual home backgrounds performed better at school than those who speak mostly one language at home and at school.

When respondents were asked whether they thought having the medium of instruction in a language other than the pupils' home language had any effect on the children's learning, the entire sample replied that it has not had any effect. Furthermore, half of the sample said that the medium of instruction is not the problem for poor learners—the slow acquisition of reading, writing and counting is the problem. The medium of instruction, according to all of the respondents, should not be a problem because the children had been exposed to the language from Standard 1 and so the language had become automatic for them. If there were any problems with the medium of instruction at all, these problems would normally "sort themselves out after two years". By the time the children enter Standard 3 they would have mastered the language adequately.

3.2.3.7 Discussion of the Teacher Interview Data

The data indicate that all eight of the respondents are trained teachers. The data also show that four of the respondents are relatively young with less that three years working experience. The other half of the sample was more experienced
and two of them were senior teachers (with 33 and 16 years' experience). As a point of reference, it is noted here that an individual who becomes a teacher after completing 2 ½ years of teacher training upon completion of the SPM will be able to put in about 39 years of service before retiring at age 56. Therefore a teacher with 33 years of service could be assumed to be one who is valuable to the school. Overall, all the teachers were qualified and have been trained to educate primary school children. As discussed in the literature review, there is ample evidence to suggest that the quality of teachers and teacher training programmes are important in ensuring the quality of teaching and educational outcomes (Cheng, 1996; Hanushek, 1997; and Wenglinsky, 1998). However, this preliminary data do not claim to reflect the entire school population but just a small sample of the teacher population.

According to the data on teachers' linguistic background and language proficiency, all are proficient in Bahasa Melayu and English with three of the respondents also proficient in a third language. Based on the professional and linguistic description of the teachers, there should not be any doubt in the teachers' proficiency in the language of instruction and the quality of teaching delivered at these four schools. Although this research is unable to verify the respondents' proficiency in the English language and the third language, it can justify that they are proficient in Bahasa Melayu. This is because the minimum requirements for entry to the pre-service teaching diploma programme are a credit pass in the subject the candidate intends to specialize in and at least four other credits inclusive of a credit pass in Bahasa Melayu at Sijil Pelajaran
Malaysia (equivalent to Cambridge GCE O-level). The student teacher is expected to have at least a comprehensive education at the upper secondary school level before becoming a teacher (Ministry of Education, 2000).

In terms of assessment procedure, all four schools follow the standard procedures stipulated by the Ministry of Education. It is interesting to observe from the data that all four schools still streamed pupils according to their performance in school-based assessments, even though the ICPS does not encourage it. This indicates that the schools felt that streaming is a more practical way for organizing teaching strategies.

In terms of the characteristics that constitute a poor learner, all of the respondents said that a poor learner is first identified based on their performance in school-based assessment and daily academic tasks and then by their general attitudes towards schooling and their behaviour. The main characteristic highlighted by the teachers was pupils' low interest in classroom activities and general lack of interest in schooling. These observations on the part of the teachers paralleled findings from studies concerning the effect of student effort and attitude towards schooling (Brookhart, 1998; Lamdin, 1996; Caldas, 1993). It was suggested in these studies that students who show positive attitudes towards schooling usually will put in more effort into their studies which in turn will produce better learning outcomes. On the average, the respondents indicated that there could be around twenty poor learners in each Standard. Analysis of the examination result data revealed that the number of poor learners
based on academic performance is similar to the number of teacher identified poor learners.

Based on the respondents' perception, most poor learners would find Bahasa Melayu and Mathematics as the more difficult subjects at school. This difficulty according to the respondents is due to the poor learner's limited acquisition of the basic skills of reading, writing and counting. The data indicate that pupils' difficulties with learning were never analyzed in depth; it is mainly based on whether a child passed or failed a particular subject. A fail grade would denote that the child has difficulties with the subject and when the child continued to fail after some in-class remedial teaching, the child might be considered a poor learner. The specific difficulties the child faced were never identified. However, teachers observed that most pupils, even if in the beginning they find it difficult to learn Bahasa Melayu and through Bahasa Melayu, they are able to overcome their problems. This is because they do not have reading problems. On the other hand, the 5% poor learners who continue to have difficulties will continue to lag behind in attainment level because although they can communicate in Bahasa Melayu, they cannot perform academic tasks satisfactorily. The respondents related the difficulties faced by the poor learners as having to do not so much with the learning of the Bahasa Melayu or through the medium of Bahasa Melayu, but with their inability to master literacy skills, especially reading.

This being so, school remedial programmes focused mainly on reading intervention in Bahasa Melayu. All respondents supported the remedial
programme and were keen on taking poor learners out of their mainstream classes and sending them to the remedial class so the teachers could concentrate on covering the syllabus with the more able pupils. Furthermore, none of the respondents made reference to the 1994 Salamanca Statement. It is clear from their responses that the respondents are not in support or are not aware of the Ministry of Education’s pledge to actively work towards practising inclusive education as agreed in the 1994 Salamanca Statement on inclusive education. It also suggests that the Ministry of Education, whilst in support of inclusive education, has not disseminated the Salamanca framework and objectives to the schools. The schools in this preliminary investigation are obviously still working at designing the most effective segregation programmes for children with special needs.

Of the four schools, three had remedial programmes running. Respondents indicated that the remedial programme is a beneficial support for teachers and should be expanded to include more pupils and cover all school subjects. Respondents found it difficult to provide effective individual attention to poor learners during mainstream teaching since the enrolment in each class can reach up to fifty pupils of different ability levels. What can be deduced from the data is that teachers in this sample appeared to be largely concerned with completing the syllabus within the stipulated time. It was probably the time constraint and the large class size that pressured teachers so they were not keen on taking on the responsibility of doing extra for the pupils with difficulties in learning. Hence
they support the practice of putting poor learners in a separate programme and to be taught by a different teacher, which is totally the opposite of what is stated in the 1994 Salamanca Statement.

In a personal communication with an officer from the Special Education Department of the Ministry of Education in Malaysia, it was discovered that although Malaysia supports inclusive education, and is trying to move towards it, the switch from segregation to integration is not that simple. The Ministry's main concern, according to this officer, has mainly to do with the costs of securing trained manpower able to handle children with diverse educational needs in one classroom. As can be seen from this preliminary investigation, teachers feel they do not have the expertise or the time to meet the special needs. Furthermore schools are not keen to jeopardize their almost clockwork schedule by sending experienced teachers for re-training.

However, Lynch (1994) suggests that it would be more costly to segregate than to integrate and that the support teacher system might be the most cost effective and educationally productive way for a country like Malaysia, who is just beginning to realize the concept of inclusive education. This same report also suggests that making the switch from segregation to integration need not require more staff than what is already in place at the schools. Unnecessary costs can be cut if spending is used mainly for reviewing already existing programmes. The areas that should be looked into in order to launch into inclusive education
include teacher retraining, initial and induction training, improved deployment, motivation and professional support, learning materials, and a revised curriculum to meet the educational capabilities and needs of a wider range of children. Already now, in schools where effort has been made to introduce inclusive education through collaborative teaming, teachers are confused as to the role boundaries between mainstream and special education teachers (Zalizan, 2000). Nevertheless, Zalizan (2000) believes that despite difficulties faced, the responses from schools indicate emerging support for inclusive education.

In terms of language use, teachers observed that pupils used mostly Bahasa Melayu with each other in most situations. However, they also observed that pupils from more affluent family backgrounds with parents who have had higher education, tended to speak more of other languages, apart from their own mother tongues. These pupils were also reported to be performing better academically than the pupils who come from less affluent family backgrounds and speak only their mother tongues.

Although the pupils learnt through one common language, Bahasa Melayu, in communicative situations outside of the classrooms, some pupils speak in preferred languages that could be different from the school language. For many children, in such situations, Bahasa Melayu is not the preferred language. Therefore, further information on the pupils’ language-use patterns need to be gathered and the effects these patterns have on academic outcomes need to be investigated.
Teaching, the respondents indicated, would be carried out in Bahasa Melayu at all times although some respondents do resort to English in situations when pupils found the explanation in Bahasa Melayu difficult to understand. Respondents in general, also did not perceive the medium of instruction as a problem for the pupils. This view will be considered when the analysis of the pupils' performance in school-based assessments is reported.

3.2.4 Data from Pupils' School-based Assessment Results

Records of school-based attainment test (SAT) results for the 1998 Standard 4 and 1999 Standard 5 were obtained for analysis. This was done to compare pupils' performance over two consecutive years. The pupils' examination results were analyzed in the following ways:

- Comparison between the low achievers' and the high achievers' performances,
- Performance of each school's top 5% performers,
- Performance of each school's bottom 5% performers,
- Performance of each school's ethnic groups.

In the school sample, academic attainment was measured in terms of the pupils' performance in the SAT for all subjects. However this current study focused on the following subjects: Bahasa Melayu (Comprehension), Bahasa Melayu
(Writing), Mathematics, and Science. All four schools used a standard marking scheme:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>80-100</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>60-79</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>40-59</td>
</tr>
<tr>
<td>D</td>
<td>Poor</td>
<td>20-39</td>
</tr>
<tr>
<td>E</td>
<td>Weak</td>
<td>0-19</td>
</tr>
</tbody>
</table>

(Grades D and E are failure grades)

For the purposes of this study, the SAT results obtained from the four schools were re-organized into three performance categories. These categories are:

- **High Achievers** (pupils who obtained A grade, 80 – 100 marks in the subject).
- **Average Achievers** (pupils who obtained B and C grades, 40-79 marks in the subject).
- **Low Achievers** (pupils who obtained D and E grades, 0 - 39 marks in the subject).

The pupils that this study was interested in were the ones in the low achievers category. These were the pupils who had been obtaining less than 40 marks out of 100 in each of the subjects assessed. This study is mainly interested to draw out the pattern of performance of pupils within the low achievers category in comparison to the performance of pupils in the extreme opposite end of the scale, high achievers. The data for the average achievers will not be discussed further.
3.2.4.1 Academic Performance of Low Achievers in Comparison to Performance of High Achievers

What has surfaced from this data is the fact that there is no clear pattern in the pupils' performance. As revealed in the teacher interview data, the syllabus is the same for all schools, and the topics to be tested at any given point in the course of study are also be similar across the four schools as these would have been pre-determined by the syllabus provided by the Ministry of Education.

The percentages presented in the Tables below are based on the analysis of the pupils' end-of-year assessment results. By the end of the year, all four schools would have completed the syllabus stipulated for each of the Standards, therefore strengthening the argument that the items to be tested should be similar for all four schools, covering the whole year's stipulated topics. However, because the assessment tools are not standardized across the four schools, each school's performances over the two years differ from each other.

### Table 11

Percentage of Low Achievers in Standard 4 (1998) and Standard 5 (1999) Based on Performance in Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (MATH) and Science (SCI)

<table>
<thead>
<tr>
<th></th>
<th>SCHOOL A</th>
<th>SCHOOL B</th>
<th>SCHOOL C</th>
<th>SCHOOL D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>16.2</td>
<td>22.4</td>
<td>30.4</td>
<td>11.5</td>
</tr>
<tr>
<td>BMW</td>
<td>19.8</td>
<td>19</td>
<td>32.1</td>
<td>22.6</td>
</tr>
<tr>
<td>MATH</td>
<td>44.4</td>
<td>26.7</td>
<td>78.6</td>
<td>71.9</td>
</tr>
<tr>
<td>SCI</td>
<td>29.3</td>
<td>20.9</td>
<td>45.5</td>
<td>50.9</td>
</tr>
</tbody>
</table>
Table 12

Percentage of High Achievers in Standard 4 (1998) and Standard 5 (1999) Based on Performance in Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (MATH) and Science (SCI)

<table>
<thead>
<tr>
<th>SCHOOL A</th>
<th>SCHOOL B</th>
<th>SCHOOL C</th>
<th>SCHOOL D</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>10.4</td>
<td>12.1</td>
<td>12.5</td>
</tr>
<tr>
<td>BMW</td>
<td>13.8</td>
<td>33.6</td>
<td>3.6</td>
</tr>
<tr>
<td>MATH</td>
<td>13.6</td>
<td>26.7</td>
<td>0</td>
</tr>
<tr>
<td>SCI</td>
<td>7.8</td>
<td>23.5</td>
<td>0</td>
</tr>
</tbody>
</table>

In the Standard 4 Bahasa Melayu Comprehension (BMC) assessment, for example, the percentages of low achievers differ greatly across the four schools with 16.2% in School A, 30.4% in School B, 61.7% in School C and 20.2% in School D. The differences in percentages of low and high achievers across the schools could also be observed for other subjects.

Within schools, pupils' performance between Standard 4 and Standard 5 also indicated an erratic pattern. Although a drop in poor performance might be more expected than a huge increase in good performance, it also does not seem normal statistically for performance to drop or improve five-fold over one year as can be seen in the Bahasa Melayu Comprehension performance in School C. In 1998, there were 61.7% low achievers in Bahasa Melayu Comprehension among the Standard 4 pupils in School C and in Standard 5 the percentage of low achievers among the same pupils dropped to 17.2%. This pattern could also be observed in Bahasa Melayu Comprehension performance of high achievers in
School C—from 0 in 1998 to 8.6% in 1999, and School D—from 6.2% in 1998 to 31.9% in 1999. Another observation made was that although pupils' performance in Mathematics was low across all four schools over the two years, School B's pupils had performed worst of all with 78.6% low achievers in 1998 and 71.9% in 1999. Parallel to that School B was also the only school that did not have any high achievers in Mathematics for both 1998 and 1999.

This erratic trend in the pupils' performance could be due to many reasons. First, the tools used to assess Mathematics competence for both 1998 and 1999 could have been the most difficult in School B in comparison to those used in the other three schools. Second, it could be that the pupils in School B had not fully mastered the skills or understood the lessons taught. Third, the teaching approach used at the school had not been effective.

The disparity in the performance pattern led this study to conclude that the school-based assessment tools used at these four schools were unreliable in the sense that pupils' performance or attainment level that they assessed is not comparable between schools. The lack of consistent pattern across the Standards and the schools in all four subjects suggests faulty testing instruments or at least, testing instruments that are calibrated differently in different schools, thus making any attempt to compare performance between schools unreliable and therefore, invalid. Hence, the following sections will present the four schools' bottom and top 5% pupils' performance separately.
3.2.4.2 Performance of Top 5% Pupils

The overall performance of the best 5% Standard 4 pupils indicated similar disparity across the four schools as it did in the analysis of performance of the whole Standard earlier. From the data in this section it can be seen that although they are in the top 5% of the sample, in School A, 2 (29%) performed at the B-grade level. Of the top 5% in School B and C, 100% performed at the B-grade level, and of the top 5% in School D, 75% performed at the B-grade level.

Tables 13 through 16 present data describing the academic performance of pupils in the top and bottom 5% for the four main subjects.

Table 13

School A top 5% 1998 Standard 4 and 1999 Standard 5 pupils’ Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 7)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>76</td>
<td>74</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>BMW</td>
<td>74</td>
<td>91</td>
<td>80</td>
<td>92</td>
<td>78</td>
<td>87</td>
<td>84</td>
</tr>
<tr>
<td>MATH</td>
<td>88</td>
<td>90</td>
<td>94</td>
<td>94</td>
<td>91</td>
<td>88</td>
<td>86</td>
</tr>
<tr>
<td>SCI</td>
<td>82</td>
<td>91</td>
<td>82</td>
<td>90</td>
<td>80</td>
<td>97</td>
<td>76</td>
</tr>
<tr>
<td>TOTAL (400)</td>
<td>324</td>
<td>362</td>
<td>336</td>
<td>352</td>
<td>323</td>
<td>348</td>
<td>322</td>
</tr>
</tbody>
</table>
Table 14
School B Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 4)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>76</td>
<td>76</td>
<td>86</td>
<td>90</td>
</tr>
<tr>
<td>BMW</td>
<td>76</td>
<td>66</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>M3</td>
<td>62</td>
<td>61</td>
<td>68</td>
<td>56</td>
</tr>
<tr>
<td>SCI</td>
<td>71</td>
<td>74</td>
<td>73</td>
<td>72</td>
</tr>
<tr>
<td>TOTAL (400)</td>
<td>285</td>
<td>277</td>
<td>291</td>
<td>282</td>
</tr>
</tbody>
</table>

Table 15
School C top 5% 1998 Standard 4 and 1999 Standard 5 Pupils' Performance in the 4 Core Subjects; Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 3)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>84</td>
<td>72</td>
<td>88</td>
</tr>
<tr>
<td>BMW</td>
<td>84</td>
<td>92</td>
<td>91</td>
</tr>
<tr>
<td>M3</td>
<td>68</td>
<td>91</td>
<td>49</td>
</tr>
<tr>
<td>SCI</td>
<td>68</td>
<td>85</td>
<td>55</td>
</tr>
<tr>
<td>Total (400)</td>
<td>304</td>
<td>340</td>
<td>283</td>
</tr>
</tbody>
</table>
Table 16

School D Top 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in the 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 8)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>82</td>
<td>86</td>
<td>60</td>
<td>72</td>
<td>98</td>
<td>85</td>
<td>52</td>
<td>70</td>
</tr>
<tr>
<td>BMW</td>
<td>80</td>
<td>84</td>
<td>98</td>
<td>97</td>
<td>62</td>
<td>76</td>
<td>72</td>
<td>73</td>
</tr>
<tr>
<td>M3</td>
<td>88</td>
<td>88</td>
<td>85</td>
<td>83</td>
<td>80</td>
<td>78</td>
<td>93</td>
<td>80</td>
</tr>
<tr>
<td>SCI</td>
<td>80</td>
<td>79</td>
<td>90</td>
<td>84</td>
<td>78</td>
<td>74</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td>337</td>
<td>333</td>
<td>336</td>
<td>316</td>
<td>313</td>
<td>307</td>
<td>303</td>
</tr>
</tbody>
</table>

In Standard 5, 29% of School A’s top 5% performed at the B-grade level and of the two pupils, one was the same child who performed at the B-level in Standard 4 the year before. In Schools B and C, the same pupils who performed at the B-grade level in Standard 4, remained at the B-grade level of performance in Standard 5 except for one pupil from School C who improved to an A-grade level of performance. For School D pupils, more A-grades were obtained for Mathematics than for the two Bahasa Melayu subjects. Science recorded the poorest performance among these students with only 2 As and 6 Bs, which showed a decline in performance compared to the 4As and 4Bs obtained in Standard 4.
3.2.4.3 Performance of Bottom 5% Pupils

Table 17

School A bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N = 7)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>20</td>
<td>28</td>
<td>26</td>
<td>34</td>
<td>24</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>BMW</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>10</td>
<td>12</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>M3</td>
<td>11</td>
<td>16</td>
<td>6</td>
<td>24</td>
<td>16</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>SCI</td>
<td>8</td>
<td>0</td>
<td>12</td>
<td>28</td>
<td>14</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>TOTAL</td>
<td>45</td>
<td>44</td>
<td>50</td>
<td>96</td>
<td>66</td>
<td>85</td>
<td>72</td>
</tr>
</tbody>
</table>

Table 18

School B Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Writing (BMW), Mathematics (M3) and Science (SCI) (N=4)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
<td>STD 5</td>
</tr>
<tr>
<td>BMC</td>
<td>22</td>
<td>27</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>BMW</td>
<td>16</td>
<td>20</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>M3</td>
<td>15</td>
<td>18</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>SCI</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>30</td>
</tr>
<tr>
<td>TOTAL</td>
<td>65</td>
<td>83</td>
<td>66</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 19

School C Bottom 5% 1998 Standard 4 and 1999 Standard 5 Pupils’ Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Comprehension (BMC), Mathematics (M3) and Science (SCI) (N = 3)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD 4</td>
<td>STD 5</td>
<td>STD 4</td>
</tr>
<tr>
<td>BMC</td>
<td>6</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>BMW</td>
<td>24</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>M3</td>
<td>14</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>SCI</td>
<td>10</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Total (400)</td>
<td>54</td>
<td>75</td>
<td>81</td>
</tr>
</tbody>
</table>

Table 20

School D Bottom 5% 1998 Standard 4 and 1999 Standard 5 Performance in 4 Core Subjects: Bahasa Melayu Comprehension (BMC), Bahasa Melayu Comprehension (BMC), Mathematics (M3) and Science (SCI) (N = 8)

<table>
<thead>
<tr>
<th>Pupil</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
<td>STD</td>
</tr>
<tr>
<td>BMC</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>BMW</td>
<td>16</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>28</td>
<td>23</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>M3</td>
<td>10</td>
<td>8</td>
<td>20</td>
<td>11</td>
<td>28</td>
<td>17</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td>SCI</td>
<td>8</td>
<td>6</td>
<td>16</td>
<td>15</td>
<td>0</td>
<td>11</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Total (400)</td>
<td>42</td>
<td>39</td>
<td>48</td>
<td>36</td>
<td>56</td>
<td>55</td>
<td>58</td>
<td>44</td>
</tr>
</tbody>
</table>

Again here, no clear pattern could be drawn from the bottom 5% pupils across the four schools, apart from the fact that most pupils remained at the same level of performance over the two academic years’ assessments. Comparison across the four schools indicated that some pupils showed big improvements in their
overall marks between Standard 4 and Standard 5, which further supports this study's contention that the assessment tools used to assess pupils' attainment of the topics included in the curriculum could be faulty.

In Standard 5, Pupil 2 from School A obtained four times the Mathematics marks he obtained in Standard 4. Pupil 3 of School B on the other hand performed even poorer in Standard 5 than he did in Standard 4 for the subject of Mathematics. Pupil 7 (School A), pupils 2 and 4 (School B) improved in Bahasa Melayu Comprehension from a fail grade in Standard 4 to a pass grade in Standard 5. These results provide further evidence that there might be something else that is going on beneath the superficial improvements and decline in performance of the low as well as the high achievers in these four schools. The implications of this will be discussed further in Chapter Eight.

3.2.4.4 Pupils' Performance by Ethnic Origin

Table 21

Number and Percentage of High and Low Achievers by Pupils' Ethnicity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH (%)</td>
<td>LOW (%)</td>
</tr>
<tr>
<td>MALAY</td>
<td>4 (18.2%)</td>
<td>17 (77.2%)</td>
</tr>
<tr>
<td>CHINESE</td>
<td>10 (45.4%)</td>
<td>0</td>
</tr>
<tr>
<td>INDIAN</td>
<td>7 (31.8%)</td>
<td>4 (18.2%)</td>
</tr>
<tr>
<td>OTHERS</td>
<td>1 (4.6%)</td>
<td>1 (4.6%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>
As can be seen in Table 21, in Standard 4 there was a large proportion of Malay pupils (77.2% of the 1998 bottom 5% Standard 4 pupils and 72.6% of the Standard 5 pupils) who were performing below the average level of competence compared to the other ethnic groups. Most of the high achievers in the 1999 Standard 5 were Chinese (40.9%), followed by the Indians (31.8%). There was only one Chinese pupil in the Standard 5 low achievers group. Although it would not be possible to implicate poor learning on the grounds of ethnicity alone, it is clear that within this sample, the Malay pupils appear to be most at risk of school failure. It is therefore crucial that other factors that may have influenced the Malay population’s academic performance be identified and addressed.

3.3 Conclusion

The findings from this preliminary investigation highlighted the following as issues pertinent to the next stage of investigation:

- that the mainstream teaching practices in schools, although in line with what was stipulated by the guidelines drawn by the Ministry of Education, have not sufficiently helped the low achievers to improve;

- that the remedial programmes provided by the school system, although a positive addition, have not made a big difference in improving the performance of low achievers;
• that because the school-based assessment tests are not standardized and possibly vary in terms of level of difficulty from school to school, they cannot present a standard measure or depiction of pupils' performance;
• that the schools' assessment produced unstable measures of performance, therefore, these performance levels alone cannot be used to define and identify poor learners.

Teachers as well as the Ministry do recognize the fact that there are pupils within the school population who have difficulties coping with learning and positive steps have been taken to address these children's needs. However, the unavailability of a clear definition of poor learners has rendered the remedial provisions not fully effective.

The school's definition of a poor learner is based on the child's consistent poor performance in school-based assessments over a period of time. However, it is not clear what constitutes 'consistent . . . over a period of time'; whether it refers to failure in two or more monthly tests, or two or more end-of-semester formal tests or even failure in all different subjects over two or more years. Furthermore, poor performance in a school-based assessment too was not clearly defined. Does poor performance cover failure in all ten subjects taught at school, or failure in the four core subjects as assessed in the PSAT, or just in Bahasa Melayu reading comprehension (since the remedial programme is synonymous with remedial reading in Bahasa Melayu)? The analysis in this
chapter showed that within the bottom 5% population of all four schools, for Bahasa Melayu Comprehension, pupils were performing below the 40 passing mark level with the exception of Pupils 2 and 4 from School B and Pupils 2 and 3 from School C.

It was also not clear whether the child's poor learning is due to language proficiency or due to lack of particular skills such as numeracy. The analysis showed that pupils in the low achievers group who failed in Bahasa Melayu also failed in Mathematics and Science. Due to the unavailability of a clearer definition and criteria for categorizing specific problems faced by the poor learners, the school could only provide reading intervention programmes in Bahasa Melayu for the poor learners.

The implementation of reading intervention programmes is a big step towards the amelioration of the situation. In cases where schools are not able to provide similar compensatory educational services, the Education Ministry should make every effort to make it available. This study has not been able to identify who among the pupils have had remedial teaching. Assuming that some of the bottom 5% pupils have been given remedial teaching, it appears that the programme has been successful albeit in a small way. The pupils in the bottom 5% generally showed improvements in performance between Standard 4 and Standard 5. However, even the bottom 5% pupils of School C, where remedial teaching is not offered, had shown general improvement in performance.
Therefore, the improvement could not be entirely due to remedial teaching alone but also due to other unidentified factors such as teaching approach or less difficult testing tools.

Based on the national statistics of primary schoolchildren's performance in Bahasa Melayu (Comprehension) at the PSAT level, even with implementation of the remedial reading programmes, 4% of the year 1997 Standard 6 pupils moved on to secondary school without having mastered the basic skill of reading comprehension in the school language (Statistics from the Examination Syndicate, Ministry of Education, 2000). This implies that for this 4% of the national Standard 6 population, their difficulties with acquiring reading skill and hence academic competence have not been addressed. Khadijah and Zalizan (1994) reported that the percentage of children with literacy-related learning problem decreases as they get older – with 35.3% identified among Standard 1 pupils, 35.2% among Standard 2 pupils and 29.3% among Standard 3 pupils. Assuming that Khadijah and Zalizan had looked at the performance of the same pupils over three years, and that the downward trend would prevail through time to Standard 6, then it could be expected that most pupils' difficulties with literacy do get remediated by the school system and practices.

Schools' remedial programmes are synonymous with reading intervention programmes. Therefore, poor performing pupils who do not have reading difficulties do not qualify for remedial teaching. However, it cannot be assumed
that all poor learners’ poor performance was due to literacy-related difficulties. The analysis also revealed a gap between the number of poor learners identified by the teachers and the number of children who qualify for remedial work. This implies that the remediation of poor learners who do not qualify for remedial teaching would become the responsibility of the subject teachers. The problem would arise when most teachers are not trained to meet the needs of such pupils.

Therefore a more specific assessment tool would be needed to diagnose the different difficulties pupils may have. With a clearer and more comprehensive definition and understanding of what constitutes a poor learner, a more defined and specific identification process could be established.

The findings of this study indicate that pupils' overall performance in Bahasa Melayu was not high and did not show great improvement between one Standard to the next despite the teachers' claim that pupils do not have a problem with Bahasa Melayu whether as a school subject or as the medium of instruction. The teachers' perception that Bahasa Melayu as the medium of instruction is not a problem for the pupils is found to be at odds with the findings presented in the literature review. In addition, analysis of pupils' performance in Bahasa Melayu assessments also appears to contradict the teachers' perception to some extent. However, based on the analysis of the pupils' performance in Bahasa Melayu, a majority of the pupils are able to achieve average to excellent achievement in the subject as well as in other subjects through the medium of Bahasa Melayu.
What concerns this study is the percentage of pupils who failed in four core subjects at the end of Standard 5 (Bahasa Melayu Comprehension – 11%, Bahasa Melayu Writing – 11%, Mathematics – 32% and Science – 22.7%). The data indicated that if the performance is poor in Bahasa Melayu, their performance is even worse in Mathematics and Science. For these pupils, their problem could be due to their lack of proficiency in the medium of instruction which makes comprehension in Science and Mathematics more difficult, or they could have other problems unidentifiable by the assessment tools used by the school.

This finding led to the conclusion that children who enter school with low proficiency in the academic usage of Bahasa Melayu are likely to face difficulties with academic instruction (as supported by Collier, 1995; Cummins, 1994; Wong-Filmore, 1991). The difficulties they face with the language is likely to frustrate their efforts at acquiring learning as they are not getting help with managing Bahasa Melayu as the language through which teaching is given. Therefore their limited proficiency in the school language results in poor academic skills acquisition, which in turn results in poor academic achievement. As these patterns become deeply entrenched, motivational factors can be internalized, possibly affecting the children’s general development, and resulting in further frustration and anxiety (Lloyd et. al., 1991). The children therefore may lose interest in learning, as they cannot understand what is going on in the classroom. This crosses over to other subjects resulting in overall poor performance.
It is also the contention of this study that the characteristics teachers use to identify poor learners, such as not completing homework, not coming to school, not paying attention in class, not able to pass school assessment tests, should not be taken to be the cause of poor academic achievement. Rather these characteristics should be taken to signal that the child is possibly not fully equipped to function or perform academic tasks, may be due to poor acquisition of school language, or due to other yet to be identified factors.

Based on these findings, the following decisions were made as to how the next stage of the investigation should proceed:

- From the teacher interview, it was clear that the school is not wholly responsible for poor academic achievement. Furthermore, the literature reviewed has established that there are other intrinsic factors such as home (Merttens, 1993; Tiederman and Faber, 1992; Grinder, 1990), socioeconomic status (Crane, 1996; Crinic and Lamberty, 1994; Ramey and Ramey, 1994), and language-use (Cummins, 2001; Baker, 2000; Gibbons and Lascar, 1998) that may also influence academic achievement. Therefore the main study proceeded to seek information pertaining to these other factors and to determine which among them are strongest in influencing academic achievement. Once the factors had been identified they were used to draw a more comprehensive profile of a poor learner.
• It was discovered that the Standard 4 and 5 examination results was inadequate in terms of performance data because the pattern in performance observed over 2 years was not clear enough. Therefore the decision was made to include performance data for Standard 6.

• Furthermore the pattern that was extracted from the analysis of the performance data in the preliminary study suggests that the school-based evaluation instruments were not very reliable. The decision was made, to therefore include the national PSAT results as comparison. The PSAT, unlike the school-based assessment tests, is a standardized form of assessment and therefore could provide a truer depiction of the pupils' attainment level at the end of Standard 6.

• The school grading system was also found to be unsatisfactory in describing an individual pupil's performance in comparison to the rest of his Standard—therefore there is a need to develop a new way of categorizing the pupil sample into performance groups.

The ensuing chapters will hence present how the second stage of investigation was carried out, the method of investigation used, the data and its analysis, the result and its implication. Chapter Four that follows will begin with presenting the methodology used.
4.0 Purpose of the Main Study

The preliminary investigation revealed that schools in Malaysia do not have a clear way of identifying and defining poor learners. Specifically, the school defines poor learners as pupils who have been, over a period of time, consistently performing below the pass grade in school-based assessments. Since this is the definition used at the school, this current study will use the same definition prior to suggesting a more comprehensive profile of a poor learner.

This study will do a critical analysis of the way schools use the school-based assessment to measure pupils' performance and attainment level. It is hoped that the study will be able to recommend an alternative way of categorizing pupils by their performance levels in school-based assessments.

4.1 The Research Questions

When talking about poor performance the first place to investigate would be the school and what goes on at school. This had been done in the preliminary study. The literature review then had brought to light various other factors beyond the
school that also influence academic performance. These factors included those related to the pupil such as gender, ethnicity, socioeconomic status, school, home, and language-use pattern. Guided by the findings of the preliminary study and the issues raised from the literature review, the following research questions were formulated as the perimeters for the next stage of investigation:

1. Which factors could be used to characterize a poor learner?
2. How reliable is the school's method of measuring academic performance:
   - Do the school-based assessment results correlate with the PSAT results?
   - Does the academic performance of a child who has been identified to be a poor learner improve over time?
3. To what degrees do the gender, ethnicity, home, school, language, and socioeconomic status factors individually influence academic achievement?
4. What research design can be used to identify the relationships that exist between the different variables that affect performance?
5. What statistical model can be used to reliably identify/predict poor learners?

4.2 Aims of the Main Study

The main study was designed to address the following aims:
• To gather relevant data encompassing six factors related to academic outcome: gender, ethnicity, socioeconomic status, school, home, and language-use pattern.
• To identify, within these six factors, variables that may have influence on academic outcome.
• To ascertain the relative impact of the variables identified on academic outcome.
• To develop a descriptive checklist that can be used to characterize a poor learner based on the results of the statistical analysis of variables identified.
• To gather information on language of instruction as an influence on achievement.
• To make proposals towards the enhancement of academic achievement among primary school pupils learning in a multilingual environment.

4.3 Research Design

The research design consists of three sets of data:

• Pupils' performance in end-of-year school-based assessment tests for four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science) over three academic years (1998, 1999, 2000), together with their year 2000 PSAT results for the same four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics
and Science) were used as the basis for measuring pupils' academic achievement. A detailed description of this categorization procedure is presented in section 4.5.4.4 in this chapter.

- Information gathered from the participants through the survey was organized into specific groups of variables so as to enable the application of appropriate statistical analysis. The statistical analysis was used to identify those variables that influence academic achievement and determine the extent and direction of their influence. A detailed description of the procedures for organizing and analyzing the survey data is presented in section 4.5.4.5 below.

- The variables that had been identified and determined were then used to build a list that would characterize the poor learner, encompassing the following factors: gender, ethnicity, socioeconomic status, school-related, home-related, and language-use patterns. This procedure is discussed in detail in Chapter 6.

The preliminary study and the literature review have brought to conscious attention two main issues, which are of integral importance to the design of this study:

(a) That while existing studies have identified a number of factors that seem to have an integral relation to the academic performance of pupils, their explanatory power is limited. Their research questions appear to the present researcher to be limited in that their research
attention is trained at the target of determining whether, how or to what extent one or more of these factors affects performance. They do not address the issue of drawing out a holistic model that will look at the dynamic interrelationships that exist between these factors and how they combine to orient the direction in which a pupil's academic progress will take.

(b) That few of the existing studies actually looked critically at the research journey, the method by which a model for reliably predicting—and intervening in—academic success or failure.

The purpose of this study, therefore, is to use the existing insights gathered through the preliminary study and the literature review—particularly the factors shown to be integrally related to academic success—to devise a model for predicting poor learners so that preventive or compensatory measures for the at-risk of failure and remedial measures for those already failing can be instituted. It is thus the main purpose of this study to use the model to ‘arrive’ at a more comprehensive description of the poor learner. To accomplish this purpose, this study will employ a two-pronged approach:

1. Collect survey and performance data to corroborate the relevance of existing research methodologies for the study of performance among Malaysian primary schoolchildren.

2. To use an appropriate statistical procedure to integrate the different factors into a holistic model. Figure 1 is the heuristic representation of this approach.
Figure 1: Research Design Model

RESEARCH DESIGN

EXPLORATORY APPROACH (Preliminary study)
- Secondary data obtained to gain insights before an approach can be developed for the main study.
- Qualitative analysis of:
  - Structured Interview Responses
  - Questionnaire (Objective Facts) Responses
  - Pupils' Examination Results (Frequencies)

SURVEY APPROACH (Main Study)
- Quantitative analysis of:
  - Questionnaires
  - Pupils' Examination Results

DESCRIPTIVE STATISTICAL ANALYSIS
- To describe and transform data into a form appropriate for further statistical analysis.

THE POOR LEARNER CHECKLIST
- (Characteristics derived from variables associated with poor performance)

LOGISTIC REGRESSION MODEL
- (Mathematical equation for predicting pupils' dichotomous performance levels—Poor/Not Poor)

INFERENTIAL STATISTICAL ANALYSIS
- Inferring strength and pattern of relationships between variables
4.4 The Participants

Four sets of participants were involved in the main study:

- The four national primary schools used in the preliminary study.
- 409 Year 2000 Standard 6 pupils from these four schools.
- The pupils' parents.
- The pupils' teachers.

4.4.1 The Schools

As the four schools used in the main study are the same four schools used in the preliminary study, the description of the schools and the rationale for their selection has already been presented in section 3.1.1.1 of Chapter Three.

The preliminary study did not make any contact with the pupils; only their Standard 4 and Standard 5 end-of-year school-based examinations results were obtained for analysis. As already mentioned, the preliminary study discovered that two years' examination results were not sufficient to draw the pattern in pupils' academic performance. Therefore in this main study, an additional year's examination results (Standard 6) were included in the analysis.

The pupil sample therefore, consisted of 409 Standard 6 pupils (academic year 2000) from the same four schools used in the preliminary study. Of the 409
pupils, 276 (68%) were boys and 133 (32%) were girls. The pupils consisted of children from a wide range of ethnic groups, representative of the country's multi-ethnic population, where 254 (62%) of them were Malays, 68 (17%) were Chinese and 87 (21%) were Indians.

4.4.2 The Pupil Sample: Rationale for Inclusion of Standard 6 Pupils

An integral part of this study's research design is the pupils' examination results, which are used as the measure of academic performance. Instead of backtracking to the pupils' Standard 3 examination results, their Standard 6 results were decidedly the more logical choice for various reasons.

Firstly, Standard 6 is the last year of primary school education and as academic achievement is the main focus of this research, it seemed suitable to investigate how well prepared these children are academically for the secondary school curriculum after six years of preparation in primary school.

Secondly, the preliminary study had begun with the analysis of the Standard 4 examination results, (Standard 4 being the stage where pupils begin the Phase II of the NSPC), followed by the analysis of the results of the next Standard up, Standard 5. Therefore, it would not be logical to include the Standard 3 examination results in the main study because in Standard 3, pupils are assessed based on the subjects taught at Phase I of the ICPS.
Thirdly, findings from the preliminary study also showed that the school-based assessment tests might not be very reliable as the tools for the measurement of performance. Therefore the Standard 6 PSAT results were also included in the main study, as it is the only standardized form of assessment available within the Malaysian primary school assessment system.

Finally, when conducting the main study in the year 2000, the pupils whose Standard 4 and Standard 5 examination results were analyzed in the preliminary study, were at that point already in Standard 6. As the research design of the main study required obtaining specific information from the same body of pupils themselves, the Standard 6 pupils were selected as the pupil sample.

Chapter Five will provide a detailed description of the pupil sample in terms of their gender, ethnicity and performance level categories.

4.4.3 The Parent Sample

Parents of all the participating pupils were invited to complete a questionnaire about the learning environment at home, the family's linguistic and socioeconomic backgrounds, and their views on the learning environment provided by the school.
In this research, a parent was defined as both the mother and father as a joint entity, or either the father or mother in cases of children from single-parent backgrounds. The parent questionnaires were sent out to all the pupil sample's parents and 65% responded by returning the completed questionnaires. Therefore, the parent sample consisted of 265 parents.

4.4.4 The Teacher Sample

All national schools in Malaysia follow the same guidelines on school practices as provided by the Ministry of Education. Although this information can be obtained from literature available from the authorities, it was important for this study that information related to the actual school system and practices was obtained directly from the staff in the schools. For this purpose, all teachers involved in the education of the pupil sample were invited to participate. Therefore, the teacher sample comprised of 41 teachers from the four schools.

4.5 The Research Tools

The research tools consisted of:

- Government policy documents (for relevant additional information only);
- The pupils' end-of-year school-based and national examination results;
- Three sets of questionnaires: pupil questionnaire, parent questionnaire, and teacher questionnaire.
4.5.1 Government Policy Documents

As in the preliminary study, government policy documents are not research tools per se, but were obtained to gather more information about school practices and to ascertain whether what have been established in these documents were actually practised at the schools. Information from these documents will not be analyzed together with the survey and pupils' examination performance data. They will, however, be included in the discussion of the findings.

4.5.2 Pupils' Examination Results

Pupils' examination results came in two forms:


- National Primary School Assessment Test (PSAT) results for the year 2000 for the same four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science).

The school-based assessment results were used:

- to categorize pupil sample into four performance level categories: Poor, Average, Good, and Excellent; hence identifying the group of pupils who fit the school's definition of a poor learner.
• to describe pupils’ achievement patterns across four subjects over three consecutive years in relation to the six factors identified earlier—gender, ethnicity, socioeconomic status, home, school and language-use.
• as a measure of academic outcome in the logistic regression model.

The PSAT results were used to compare pupils’ performance in standardized test with their performance in school-based tests.

4.5.3 The Questionnaires

Three questionnaires were designed to obtain information pertinent in addressing the research questions listed in section 4.2 above. The English language version of the questionnaires can be seen in the appendix:

1. Pupil Questionnaire (Appendix 7)
2. Parent Questionnaire (Appendix 9)
3. Teacher Questionnaire (Appendix 11)

4.5.3.1 The Development of the Questionnaires

It was essential that the questionnaires were developed in both Bahasa Melayu and English. Although the pupil sample included children whose first language might be Tamil or Mandarin, questionnaires in these languages were not prepared because as stated earlier, the researcher is conversant only in English
and Bahasa Melayu. This would not pose a problem because the Tamil and Mandarin first language speakers should be able to understand either English or Bahasa Melayu or both since they are enrolled in Bahasa Melayu-medium schools. Nevertheless, as a precaution against pupils not understanding the language of the questionnaires, careful attention was paid to keeping the language used in the questionnaires as clear and simple as possible.

Furthermore, since the researcher herself administered the questionnaires, any problems the pupils might have, were dealt with while they were doing the survey. However, where the parents were concerned, it was not possible for the researcher to be present while they were responding to the questionnaires as the questionnaires were sent to their homes via their children. So the researcher provided the parents with a telephone number where she could be contacted if they had any problems with the questionnaires.

It was important that the questionnaires would not take too long for the participants to complete. Keeping the questionnaires concise would lessen the risk of losing participants who may be too busy to participate. One way of ensuring a good response rate was to include only the most pertinent questions. Another way was by minimizing the amount of writing and asking the participants to mark in an appropriate box or circle the appropriate response. For the children, in an effort to make the questionnaire look less like a test and therefore
more appealing, popular cartoon characters were drawn in the margins of every page.

Once the questionnaires had been developed they were piloted in Malaysia. The pilot questionnaires can be seen in the appendix:

1. Pilot Pupil Questionnaire (Appendix 6)
2. Pilot Parent Questionnaire (Appendix 8)
3. Pilot Teacher Questionnaire (Appendix 10)

4.5.3.2 Piloting the Questionnaires

The Pupil Questionnaire was piloted on twenty twelve-year-old pupils. The pilot pupil sample consisted of children whose parents were lecturers at the Faculty of Languages and Linguistics, University of Malaya (nine children), and also children of the kitchen staff at one of the residential colleges (eleven children) of the same university. Since it was not possible to gather the children to complete the questionnaire in one session, the pilot exercise was carried out in two sessions. The children took 40 minutes to complete the questionnaire. The children mainly complained that the questionnaire was too long. Questions raised by the children were noted and later incorporated into the revised version of the questionnaire, where appropriate. All twenty children completed the Bahasa Melayu version of the questionnaire.
The Parent Questionnaire was piloted on three groups of parents who are staff and students of the University of Malaya:

1. Group A comprised five lecturers.
3. Group C comprised seven residential college kitchen staff.

A total of forty parents participated in piloting the Parent Questionnaire. Out of the forty parents, nineteen also completed the Teacher Questionnaire, as they are parents who are also primary school teachers taking time out from teaching to obtain their degrees. Both the English language and Bahasa Melayu versions of the Parent and Teacher Questionnaires were made available to the pilot sample.

As participants in Group C were not well versed in the English language, they chose to complete only the Bahasa Melayu version of the Parent Questionnaire. Participants in Group A volunteered to pilot both the Bahasa Melayu and English language versions of the Parent Questionnaire. With the participants in Group B, twenty completed the Bahasa Melayu version and twenty completed the English language version of the Parent Questionnaire. Among the teacher sample, ten completed the Bahasa Melayu version and nine the English language version. Comments and criticisms from the pilot parent/teacher sample included suggestions on how to better structure the questionnaires, improve on the length
and clarity of language used in individual items, as well as translation suggestions between Bahasa Melayu and English.

All adult participants were asked to indicate on their individual questionnaires the time they took to complete the task. They were also encouraged to write their comments and criticisms about the questionnaires. On an average the Parent Questionnaire took 35 minutes to complete and the Teacher Questionnaire, 15 minutes.

The following sections will describe the changes made to the questionnaires and the procedure for their administration in detail.

4.5.3.3 The Pupil Questionnaire: The Piloting and Restructuring of the Final Version

The pilot Pupil Questionnaire consisted of 50 items and as mentioned earlier it took the children 40 minutes to complete the questionnaire. Based on the questions raised by the children in the pilot exercise, revisions were made on the pupil questionnaire accordingly.

Other than the changes to the content of the questionnaire, the numbering of the items in the final version was also changed. Furthermore, in the final version, the items were organized into 4 sections:
1. Section A: Getting to know you.

2. Section B: About your activities at home.

3. Section C: About your learning habits.

4. Section D: About your language-use pattern.

The final version of the Pupil Questionnaire comprised 41 items, and had been prepared in both Bahasa Melayu and the English language.

4.5.3.4 The Parent Questionnaire: The Pilot and Restructuring of the Final Version

The Parent Questionnaire, as administered to the pilot sample consisted of 42 items organized in 3 parts:

1. Part A: (Questions 1 to 17) sought information on the family's background.

2. Part B: (Questions 18 to 33) sought information on the child's schooling.

3. Part C: (Questions 34 to 42) sought information on the family's language-use pattern.

Based on the comments and suggestions of the pilot sample, relevant changes were made on the pilot questionnaire.
In order to reduce the amount of reading time for the parents, some of the items that required them to choose appropriate responses from a choice of four or five were restructured as items that required them to write down the appropriate response.

Another step taken in order to reduce the time required to complete the questionnaire was to omit from the Parent Questionnaire, some of the items that were already in the Pupil Questionnaire.

Finally, unlike the pilot questionnaire, which consisted of 3 parts (Part A, B and C), the final version reorganized the items into 4 parts:

1. Part A: Personal details
2. Part B: Language use
3. Part C: The child's activities at home
4. Part D: Miscellaneous information

With this reorganization, the final version had direct, less challenging items at the beginning and the end of the questionnaire, and the more crucial items in the middle. This strategy was employed to minimize the risk of losing the more crucial information should the respondents decide not to complete a lengthy questionnaire. The final version of the Parent Questionnaire consisted of 36 items. The questionnaire was prepared in Bahasa Melayu and English.
4.5.3.5 The Teacher Questionnaire: The Pilot and Restructuring of the Final Version

The pilot questionnaire consisted of 30 items covering teachers' personal details, professional background information, and their opinions on pupils, work, and school practice. Although there were not very many comments from the pilot sample about the length and content of the questionnaire, the final version was made shorter and less wordy.

The final version of the Teacher Questionnaire consisted of 20 items, 7 of which required them to fill in short responses while the remaining 12 items required them to tick the appropriate boxes. The questionnaire required about 15 minutes to complete.

4.5.4 Procedures

4.5.4.1 The Pupil Questionnaire: Procedures for Administering the Final Version

The researcher administered the questionnaire to the pupils class by class and was present throughout every session to clarify any difficulties the pupils had concerning the questionnaires. The two pupils, who completed the English Language version, did so together outside of the class sessions with the researcher present throughout the session to answer their queries.
The final version of the Pupil Questionnaire was expected to take about 30 minutes to complete because it had been restructured to be shorter and would require less reading and processing of information. However, in the actual classroom administration it required between 40 to 60 minutes to complete.

Permission to carry out this research was granted with the proviso that no interruption should be imposed on the Standard 6 pupils and teachers until they have completed the Primary School Assessment Test (PSAT). It therefore took two weeks to cover all eleven classes of Standard 6 pupils.

Pupils who were absent on the day the questionnaire was administered completed the questionnaire when they returned to school. In total, 47 pupils from the four schools were absent on the days the questionnaires were administered. Only 9 of the 47 absent pupils could be located in the follow-up; 2 of them completed their questionnaires on their own at home and 7 of them completed theirs together with the researcher during free periods at school. Therefore the total number of completed questionnaires was 409 out of 447, which is a response rate of 91%.

4.5.4.2 The Parent Questionnaire: Procedures for Administering the Final Version

At the end of each session with the pupils, they were each given a package to take home for their parents. The package for parents comprised:
1. The Parent Questionnaire

2. A short letter explaining the research and the purpose of the questionnaire,

3. An invitation to participate in the research,

4. The researcher's contact number, in case parents needed extra information on the research or clarification about the questionnaire.

The Bahasa Melayu version of the Parent Questionnaire was included in the parent package although parents were informed that an English Language version could be supplied to them should they prefer it.

The Parent Questionnaire was designed to be completed jointly by both parents where applicable and was expected to take between fifteen to twenty minutes to complete. The questionnaire comprised 36 items, two-thirds of which required them to tick the appropriate boxes and the remaining one-third to be filled in with brief responses.

Pupils were asked to remind their parents that the completed Parent Questionnaire should be returned to the researcher via their child's class teacher within a week.

The initial response rate from the parents was 23%, which was quite low (only 95 out of 409 returned their questionnaires). So a second round of the parent packages was distributed. At the end of the second round, an additional 105
Parent Questionnaires were obtained, raising the returned rate from 23% to 49%. As this was still less than 50% returned, a third round of parent packages was distributed. After the third round, a total of 265 Parent Questionnaires were obtained (65% of the parents responded). At this point the school year was coming to an end. Therefore the total number of Parent Questionnaires collected was 265, which is 65% of the expected number of questionnaires (409).

4.5.4.3 The Teacher Questionnaire: Procedures for Administering the Final Version

All teachers involved in the teaching of the pupil sample were given a Teacher Questionnaire each to complete. They were asked to return it while the researcher was at the schools that is over a period of three months. In fact, all 41 Teacher Questionnaires were returned to the researcher within a few days after their distribution. The return rate for the Teacher questionnaire was 100%.

4.5.4.4 Procedure for Categorizing Pupil Sample into Performance Categories

One of the crucial steps in the data analysis is to find the most effective way to describe each of the pupils' academic achievement in comparison to the rest of the pupil sample. The establishment of performance level categories, it was hypothesized, will contribute towards explaining the definition of a poor learner, which is one of the issues this research seeks to investigate.
In Malaysian schools, apart from records on the pupils' performance in school-based and national examinations, there are no standardized norms or criteria, apart from the PSAT, used or made available by the Ministry of Education to measure academic achievement. Therefore this study is limited to the use of the pupils' performance in school-based examination to categorize the pupil sample into performance level subgroups.

For the purposes of categorizing pupils into performance level subgroups, only the end-of-year 2000 results were used. As will be seen later, once the performance levels had been obtained, the examination results for the three consecutive academic years (1998 to 2000), including the PSAT results, were then used to track the pupil sample's academic performance from Standard 4 to Standard 6.

Theoretically, the PSAT results would be the better measure, in comparison to the school-based examination results, to categorize the pupils into performance level subgroups. This is because the PSAT is a national examination set and graded by the Ministry of Education and all Standard 6 pupils sit for the same PSAT simultaneously nationwide; while the school-based examinations are set and graded by subject teachers within each individual school. Although teachers follow the same assessment procedures and guidelines in terms of format, content and marking scheme provided by the Ministry of Education, there is still
the possibility that the assessment materials may differ between schools in terms of difficulty.

However, the Ministry of Education released the PSAT results to the schools in aggregate format, whereby an aggregate of 1 is equivalent to an A-grade (Excellent), and an aggregate of 5 is equivalent to an E-grade (Fail). In comparison, the school-based end-of-year examination results were reported as marks out of 100. Since the pupils' examination results, as one of the variables, were to be statistically analyzed, it was felt that it would be more meaningful to work with a variable measured at the interval/ratio level (that is between 0 and 100) than that at the ordinal level (that is between 1 and 5). By using raw data measured at the interval level as opposed to that measured at the ordinal level, this research was able to draw out a more realistic and readable analysis of performance through the calculations of mean, median, mode and pattern of distribution. Therefore, in this research, the end-of-year school-based examination results were favoured over the PSAT results to categorize the pupils into performance level subgroups.

The procedure for categorizing the pupil sample into appropriate performance level subgroups involved first, calculating individual pupil's total end-of-year 2000 school-based examination scores in four core subjects—Bahasa Melayu (Writing), Bahasa Melayu (Comprehension), Mathematics and Science. The
highest possible mark obtainable for each subject is 100; therefore the highest possible overall mark obtainable for the four subjects combined is 400.

The decision to combine the pupils' scores in all four subjects into one overall score was also based on the schools' practice of reporting to parents their child's academic performance in terms of the child's position or ranking in class as indicated by his/her overall marks in the core subjects against his/her classmates' overall scores in the same subjects. In other words, a child with the highest overall score would be reported as the "First" in class and the child with the lowest overall score would be reported as the "Last" in class. For the end of the year assessment, the child's ranking in the Standard would also be reported. A child who is first in his/her own class may not necessarily be the first in the Standard because there may be other "Firsts" in other classes whose overall scores are more than his or her scores. Based on this system, discerning parents may not be happy to know that their child was "First" in class if the child obtained only 300 overall marks over the 400 marks possible because the child may have obtained, on an average, 75 marks out of 100 (which is a B grade) in each of the four subjects assessed.

After the overall scores for each of the pupils have been calculated, the next step was to find a way in which these scores could be used to categorize the pupil sample into justifiable performance level subgroups. At this point it is necessary
to present three possible ways of categorizing the pupil sample into subgroups before discussing the one selected for this research. These three ways are:

1. The grading system used by the schools
2. Standard deviation
3. Quartiles

4.5.4.4.1 The Grading System Used by the School

All four schools used the marking scheme (Table 22 below) provided by the Ministry of Education to grade pupils' performance at the end-of-year examinations.

Table 22

Marking Scheme Provided by Ministry of Education

<table>
<thead>
<tr>
<th>GRADE</th>
<th>PERFORMANCE LEVEL</th>
<th>RANGE OF MARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>EXCELLENT</td>
<td>80 – 100</td>
</tr>
<tr>
<td>B</td>
<td>GOOD</td>
<td>60 – 79</td>
</tr>
<tr>
<td>C</td>
<td>AVERAGE</td>
<td>40 – 59</td>
</tr>
<tr>
<td>D</td>
<td>POOR</td>
<td>20 – 39</td>
</tr>
<tr>
<td>E</td>
<td>WEAK</td>
<td>0 – 19</td>
</tr>
</tbody>
</table>

Under this marking scheme, the passing grades are A, B and C. Grades D and E are failure grades. Using this marking scheme and the pupils' total marks for four subjects for the year 2000 assessment, the following performance level categories were obtained:
Table 23
Derived Performance Level Based on Marking Scheme Provided by Ministry of Education

<table>
<thead>
<tr>
<th>PERFORMANCE LEVEL</th>
<th>RANGE OF OVERALL TOTAL (Over 400, Min. = 24, Max. = 388)</th>
<th>NUMBER OF PUPILS (N = 409)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCELLENT</td>
<td>320 – 388</td>
<td>44</td>
</tr>
<tr>
<td>GOOD</td>
<td>240 – 319</td>
<td>162</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>160 – 239</td>
<td>114</td>
</tr>
<tr>
<td>POOR</td>
<td>80 – 159</td>
<td>72</td>
</tr>
<tr>
<td>WEAK</td>
<td>24 – 79</td>
<td>17</td>
</tr>
</tbody>
</table>

This way of dividing up the pupils was found to be unsatisfactory. A pupil would have to obtain a certain score to belong to a certain category, for example, an overall score of 320 to 400 in order to fit into the Excellent group. If no one scores between any of the specified ranges, there would be no pupil in that category. More importantly, with this type of categorization, there is no way of knowing how well or how poorly each pupil did in comparison to the rest of the sample. A pupil achieving 89 on an examination will be categorized as Good, even though it is the highest score in the class and should merit an Excellent grade. Furthermore, the other pupils’ performance will be measured against the highest possible score of 100 rather than relative to the actual highest score obtained, which is 89.

Individual pupils have ability levels that are different from each other. For this reason, a set of performance level categories should be able to account for the difference in performance in any given assessment tool based on the individual
pupils' different levels of ability. An appropriate performance categorization should be able to account for the difference between a good pupil's score of 89 for example and an excellent pupil's score of 100 on the same assessment. It should also be the case that the ability level of a good pupil in the 1999 Standard 6 Mathematics assessment, for example, is the similar as that of a good pupil in the 2000 Standard 6 Mathematics.

Because of the limitations of this grading system used by the school, an alternative and more appropriate system for categorizing the pupil sample into performance levels was sought. One of the more appropriate ways explored was the calculation of standard deviation. The following section will discuss this procedure in detail.

4.5.4.4.2 Standard Deviation

The mean (average) has often been used as the simplest way to compare individual observations with the rest of the sample. However, with examination scores, knowing the mean only allows us to tell if an individual score is less than, more than, or equal to the mean. To measure the specific distance a particular pupil's score is spread from the mean (average) score in the distribution of all scores, it would be clearer to work with standard deviation. In order to measure the degree each of the scores is from the mean in units of standard deviation, the standard score or z-score should be obtained.
Using pupils' total overall marks in four subjects for the year 2000 school-based end-of-year examination, a mean of 220.20 and a standard deviation of 75.28 were obtained. From the standard deviation and mean score, the z-scores were calculated, resulting in the following performance level categories.

Table 24
Derived Performance Level Categorization Based on Standard Scores

<table>
<thead>
<tr>
<th>PERFORMANCE LEVEL</th>
<th>OVERALL MARKS (Over 400 marks, min. = 24 marks, max. = 388 marks)</th>
<th>STANDARD DEVIATION (s = 75, ( x = 220 ))</th>
<th>NUMBER OF PUPILS (N = 409)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCELLENT</td>
<td>306 - 388</td>
<td>(+2sd)</td>
<td>67</td>
</tr>
<tr>
<td>GOOD</td>
<td>228 - 305</td>
<td>(+1sd &lt; +2sd)</td>
<td>158</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>151 - 227</td>
<td>(-1sd &lt; +1sd)</td>
<td>106</td>
</tr>
<tr>
<td>POOR</td>
<td>73 - 150</td>
<td>(-1sd &lt; -2sd)</td>
<td>63</td>
</tr>
<tr>
<td>WEAK</td>
<td>24 - 72</td>
<td>(-2sd)</td>
<td>15</td>
</tr>
</tbody>
</table>

The z-scores would have been the perfect way to categorize the pupil sample if not for the fact that the calculation of the z-score involves finding the difference between pupils' score and the mean and then dividing that difference by the standard deviation. Generally, the mean can be a misleading notion of average if the distribution of scores consists of outliers (extreme scores). This is the situation with the distribution of this research's pupils' total overall scores—it is a skewed distribution (see Appendix 12: Pupil sample total score distribution). When there is a skewed distribution, the median instead of the mean is a better notion of average. For this reason, this research decided against the use of z-scores as the way to divide the pupil sample into performance level categories.
This brings us to the last of the three possible ways of categorizing pupils' performance level based on their school-based end-of-year examination scores.

4.5.4.3 Quartiles

As already discussed, the distribution of the pupils' overall scores was skewed, therefore the use of the mean as the typical or representative of the set of scores was found to not be statistically sound. The typical value of a set of data, arranged according to magnitude, tends to lie centrally in a normal distribution. But in a distribution that is not normal, such as the case with this set of pupils' examination scores, the central tendency is skewed, making the mean an unsuitable measure of central tendency. For this reason, this research had to turn to quartiles as the most appropriate way to categorize the pupil sample into performance level subgroups because the calculation of quartiles involves the median rather than the mean. In such a case, the median, (which is the middle value or the arithmetic mean of the two middle values), could be used to divide the set of scores into two equal parts. By extending this procedure one step further, those values that divide the set of scores into four equal parts could be obtained using the same median.

Where the median splits the sample into two equal parts (percentiles), calculating the quartiles would split the pupil sample into four groups, Poor, Average, Good and Excellent, with roughly equal number of cases. The quartile way of categorizing performance level eliminated the shortcomings that arose from the
use of the school grading system and the standard deviation groups. Therefore quartiles were found to be the most justifiable of the three systems to divide the pupil sample into performance level categories. Using quartiles, the following categories were the performance level subgroups were identified:

**Table 25**

<table>
<thead>
<tr>
<th>PERFORMANCE LEVEL</th>
<th>OVERALL MARKS (Over 400 marks, Min. = 24 marks, Max. = 388 marks)</th>
<th>QUARTILES (25 = 176, 50 = 241, 75 = 291)</th>
<th>NUMBER OF PUPILS (N = 409)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCELLENT</td>
<td>291 – 388</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>105</td>
</tr>
<tr>
<td>GOOD</td>
<td>241 – 290</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>101</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>176 – 240</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>101</td>
</tr>
<tr>
<td>POOR</td>
<td>24 - 175</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>102</td>
</tr>
</tbody>
</table>

Having decided that quartiles division was the most appropriate way to categorize pupils into performance categories, there is just one final step to be carried out.

In this study, the term “poor learner” was used to describe pupils who have been performing consistently below the passing mark in school-based assessments over a period of time. Therefore, from the derived performance level categorization based on the quartiles above (Table 25), the year 2000 assessment results for the 102 poor learners identified were compared with their assessments results for years 1999 and 1998. This was done to identify pupils who performed within the 1<sup>st</sup> quartile (poor category) for 2000, had performed
within the poor category for 1998 as well as 1999. The same procedure was also carried out on the list of pupils who performed in the 4th quartile (excellent category) in the year 2000 end-of-year school-based assessment. This enabled this study to obtain a list of pupils who performed within the 1st and 4th quartiles over three consecutive academic years—1998, 1999, and 2000. The total number of pupils obtained after this final step was 69 poor learners and 65 excellent learners (see Table 26).

Since the focus of this research is on poor learners, only pupils who performed within the 1st quartile range or the poor performance level category over three consecutive years and their extreme opposite, pupils who performed within the 4th quartile range or the excellent performance level category over three consecutive years were included for further analysis. Pupils performing within this 4th quartile range were included in the analysis to show the gap in performance and the difference in characteristics between the poor and the excellent performers. The 275 pupils belonging to the Average and Good categories will not be included in the analysis. Table 26 below shows the quartile splits for the poor and excellent learners over the three years.

Table 26
Quartile Splits for Poor and Excellent Learners: 1998, 1999, and 2000

<table>
<thead>
<tr>
<th>Performance category</th>
<th>Quartile range (1998)</th>
<th>Quartile range (1999)</th>
<th>Quartile range (2000)</th>
<th>Number of pupils in same category over three years</th>
</tr>
</thead>
<tbody>
<tr>
<td>POOR</td>
<td>18-164 (n = 102)</td>
<td>36-184 (n = 100)</td>
<td>24-175 (n = 102)</td>
<td>69</td>
</tr>
<tr>
<td>EXCELLENT</td>
<td>302-377 (n = 102)</td>
<td>27-367 (n = 103)</td>
<td>291-388 (n=105)</td>
<td>65</td>
</tr>
</tbody>
</table>
4.5.4.5 Pupil Sample Categorization

The pupil sample had already been categorized into performance level groups based on their achievement in school-based assessments. In order to address the main research concern—the characteristics of a poor learner—the first step was to develop a categorization system for organizing the pupil sample using the rest of the data obtained from the questionnaires. The pupil sample was further organized based on the following categories:

- Gender
- Ethnicity
- Home language

Based on the research findings, which have identified the existence of differences in achievement between boys and girls, it was necessary to consider the poor and excellent learners by gender. Also, the pupil sample for this current study consisted of pupils from various ethnic origins. So, it was necessary to categorize the pupils by their ethnicity in order to determine any differences in academic achievement within ethnicity.

Apart from addressing the gender and ethnic issues, this research also sought to investigate differences in academic achievement among pupils who speak mainly Bahasa Melayu at home and those who do not. In order to do so it was necessary to analyze the pupil sample by their home language. The following
sections will describe these three sub-groupings—gender, ethnicity, and home language—in detail.

4.5.4.5.1 Procedure for Organizing the Pupil Sample by Gender

Although there are studies that dispute the existence of differences in performance between genders, existing evidence has been slanting more towards the suggestion that boys are more prone to learning disabilities and that in general girls perform better than boys academically. Therefore, in this current study, the performance level groups established were further divided into four gender subgroups. These subgroups are presented below in Table 27:

<table>
<thead>
<tr>
<th></th>
<th>POOR LEARNERS</th>
<th>EXCELLENT LEARNERS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOYS</td>
<td>63</td>
<td>31</td>
<td>94</td>
</tr>
<tr>
<td>GIRLS</td>
<td>6</td>
<td>34</td>
<td>40</td>
</tr>
<tr>
<td>TOTAL</td>
<td>69</td>
<td>65</td>
<td>134</td>
</tr>
</tbody>
</table>

Once the gender subgroups have been determined, the next step is to further divide the four groups by their ethnic origin. This procedure is discussed in the following section.
4.5.4.5.2 Procedure for Organizing the Pupil Sample by Ethnicity

In this study, the determination of the ethnic origins of the pupils was based on the ethnicity of their parents. Pupils were asked what their ethnic origin was and the information obtained was confirmed by parents' responses, where available. In cases where pupils' response could not be confirmed through the parents' response, this researcher had no choice but to take the pupils' response. However, knowledge of local situation was useful. In general, there are three main ethnic groups in the pupil sample: Malay, Chinese and Indian. However, in total there were twelve ethnic subgroups identified in the sample. This number included, as well as the three main ethnic groups, Malay, Chinese and Indian, minority groups such as Punjabi, Gujerati, Indonesian and pupils from mixed parentage. It was therefore necessary to reduce these subgroups to make the numbers more reasonable for analysis.

The first step in reducing the number of ethnic subgroups was to combine the smaller groups (in terms of the small number of pupils within the group, i.e. less than 10 pupils) into larger groups. Specifically, all smaller subgroups whose ethnic origins are from the Indian sub-continent, for example, Punjabi and Gujerati were combined into the Indian subgroup. This was done because these smaller groups all originated from the same country—India. Pupils from mixed parentage whose dominant home culture is of Indian origin were also combined with the Indian subgroup. As there was no way for this study to verify the dominant culture of a particular pupil, it was decided that the main language used
at home would be a fair indication of the pupil's dominant culture. For example, in the case of a pupil with one Chinese parent and one Indian parent, if his dominant language at home were Tamil then he would be categorized as Indian rather than Chinese.

The rationale for using home language to re-categorize pupils' ethnicity is further supported by the fact that in most cases in Malaysia, language identifies ethnicity. It follows that the dominant home language would be a strong determining factor for the dominant ethnicity in the case of pupils from mixed parentage. Furthermore, in this research there was interest in the extent to which the language pupils speak at home, which may be other than Bahasa Melayu, could account for the difference in academic achievement. In that sense the finer divisions between various ethnic groups would not be so crucial to this research. What would be more crucial is whether pupils speak Bahasa Melayu or languages other than Bahasa Melayu at home.

However, pupils with Malay and other ethnic group parentage are grouped under the Malay subgroup regardless of their dominant language use patterns. This is because in Malaysia, all Malays are Muslims. When a non-Muslim marries a Malay, Islamic law binds the non-Muslim to convert into Islam. When an individual adopts the religion of the Malays it is most likely that the Malay culture is adopted together with the religion. And so a pupil with one Malay parent and one Caucasian parent for example, would be categorized under the Malay
subgroup. Although the Islamic law is binding, religion has become such a personal thing that there is no way of knowing what is actually practised within such households. As the researcher has no means of confirming the actual practices in the homes of these families, this research will follow the general assumption.

Where all Malays are Muslims, not all Muslims are Malays. Included in the pupil sample, is a group of 6 pupils of Indian parentage who are also Muslims. These pupils speak Tamil or one of the other languages of the Indian sub-continent and may also practise more universal Indian culture. However, because they are Muslims by birth and many have been in Malaysia over two or more generations their home culture is likely to have some Malay and Islamic influences. They themselves do not prefer to be categorized as Indians per se. Instead they term their ethnicity as Indian-Muslims.

As this research has established a criterion whereby the dominant language spoken at home is the identifying factor for ethnicity, the 6 Indian-Muslims were categorized in the Indian subgroup. This is because, although they are Muslims, they still speak a variety of the Indian languages and still practise the Indian culture, making them more Indian than Malay. There was also one pupil of 'Orang Asli' origin. This pupil was categorized as Malay because the Orang Aslis are 'technically' Malays. They are in fact among the original indigenous Malay
people of Malaysia. Orang Asli in Bahasa Melayu translates to ‘original people’ in the English language.

With the Malays, Chinese and Indians, one can identify their ethnic origin by their heritage language. The same cannot be done with the Indonesians. This is because not all Indonesians whose heritage language is Bahasa Indonesia (Indonesian language, the root of which is the same as that of Bahasa Melayu) originated from the Malay ethnic group. One way of checking their ethnic origin is to look at the individual’s names. If they have Muslim names (identified by their Arabic origins), they are likely to be Malays. However, since the number of Indonesian pupils is small (11 in total), the researcher had addressed this issue by asking Indonesian parents (through the pupils concerned) to note on their questionnaires whether they are of Malay origin. As it happened, all 11 Indonesian pupils were of Malay origin. Therefore they were categorized in this research as Malay.

Table 28 below presents the results of this categorization procedure. Column 2 in Table 28 below shows the number of pupils in the original 12 ethnic subgroups obtained from the pupil sample. Column 3 shows the number of pupils under the derived ethnic subgroups after combining the smaller groups into the 3 main ethnic groups—Malay, Chinese and Indian.
Table 28

Pupil Sample by Ethnicity (N = 409)

<table>
<thead>
<tr>
<th>ETHNICITY</th>
<th>NUMBER OF PUPILS (Original ethnic subgroups)</th>
<th>NUMBER OF PUPILS (Derived ethnic subgroups)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALAY</td>
<td>235</td>
<td>254</td>
</tr>
<tr>
<td>CHINESE</td>
<td>67</td>
<td>68</td>
</tr>
<tr>
<td>INDIAN</td>
<td>73</td>
<td>87</td>
</tr>
<tr>
<td>PUNJABI</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>GUJERATI</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>ORANG ASLI</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>INDIAN MUSLIMS</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>CHINESE INDIAN</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MALAY CAUCASIAN</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>INDIAN MUSLIMS</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>MALAY CHINESE</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>INDIAN PUNJABI</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Together with the subgroups derived in the previous two categorization procedures (by performance level and gender), the pupil sample could now be categorized as in Tables 29 and 30 below:

Table 29

Pupil Sample by Gender and Ethnicity

<table>
<thead>
<tr>
<th>NUMBER BY GENDER/ETHNICITY</th>
<th>MALAY</th>
<th>CHINESE</th>
<th>INDIAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOYS</td>
<td>184</td>
<td>37</td>
<td>55</td>
<td>276</td>
</tr>
<tr>
<td>GIRLS</td>
<td>70</td>
<td>31</td>
<td>32</td>
<td>133</td>
</tr>
<tr>
<td>TOTAL</td>
<td>254</td>
<td>68</td>
<td>87</td>
<td>409</td>
</tr>
</tbody>
</table>
Table 30
Poor and Excellent Learners by Ethnicity (N=137)

<table>
<thead>
<tr>
<th>NUMBER BY GENDER/ETHNICITY</th>
<th>POOR LEARNERS (n=69)</th>
<th>EXCELLENT LEARNERS (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALAY</td>
<td>CHINESE</td>
</tr>
<tr>
<td>BOYS</td>
<td>45</td>
<td>3</td>
</tr>
<tr>
<td>GIRLS</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>49</td>
<td>4</td>
</tr>
</tbody>
</table>

The pupil sample had been defined and organized into the performance level, gender and ethnicity categories, the rest of the survey data were then organized into the five groups based on the following factors: socioeconomic status, home, school, and language-use so appropriate statistical procedures could be used to analyze the data.

4.5.4.6 Further Organizational Procedure for the Survey Data

Apart from categorizing the pupil sample into performance level, gender, ethnicity and home language subgroups, further procedures were carried out to describe the pupil sample. Information obtained from the preliminary study identified the following factors as possibly having an influence on academic achievement:

a. Socioeconomic Status.

b. Home.
c. School.

d. Language Use.

The Pupil, Parent and Teacher Questionnaires used to gather the relevant data from the sample were designed to include all the above factors. The following sections will explain the procedures used to organize the data according to the factors above.

4.5.4.6.1 Socioeconomic Status Factor

The socioeconomic characteristics examined were father's educational level, mother's educational level, father's occupation, mother's occupation and family income. In this research, pupils' socioeconomic status was initially designed to be measured as a composite of three variables:

1. Parents' academic attainment
2. Parents' occupation.
3. Joint household income.

However, many parents were not willing to reveal their income and so the composite variable had to be excluded from the analysis instead they were taken as individual variables.
4.5.4.6.2 The Home Factor

The home factor consists of a set of variables related to the influence of the home. Variables included information on where and how often the child does schoolwork at home, what and how often the child watches on television, and the reward and punishment system for academic achievement parents practised at home.

4.5.4.6.3 The School Factor

Apart from related data obtained from the Pupil and Teacher Questionnaires, information gathered under this factor also included those obtained through the preliminary study as well as materials obtained from the school authorities. Information gathered included matters related to the structure and administration of the school, assessment procedure in practice and identification of poor learners. Together with the information obtained from the questionnaires, the school factor variables were divided into four sections: the pupil, the teacher, the school, and the pupils' examination results.

Under the pupil section, variables included pupils' pre-school experience, their perception of the subjects they have to study and of the difficulty level of learning through the medium of Bahasa Melayu.
Under the teacher section, information gathered included teachers' qualification, training, and length of teaching experience.

Under the school section, information gathered covered information gathered from the preliminary study as well as the teaching, assessment and administrative materials obtained from the school authorities as mentioned earlier.

4.5.4.6.4 The Language-use Factor

The language-use variables cover information on the pupils’ linguistic background and are divided into two parts: language-use at school and language-use at home.

Language-use at school included information on the language used in teacher-pupil communication during lessons and outside lessons, pupil-pupil communication during play and during lessons, and pupils' self-assessment of Bahasa Melayu proficiency.

Language-use at home included information on parents' linguistic background, parents' self-assessment of Bahasa Melayu proficiency and perception of child's Bahasa Melayu proficiency, home language and mother tongue. Information on the language used between the child and other members of the family as well as
the child's language preference when watching television and listening to the radio are also reported.

Once the various factors have been accordingly organized, the next step was to identify the more pertinent of these variables. Then the appropriate statistical procedures can be applied to draw out the main characteristics of a poor learner in contrast to those of an excellent learner. These statistical procedures will be presented in the following section.

4.5.5 Data Analysis Procedures

Data collected were computed and analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows version 10.0.

The initial analysis procedures through which the pupil sample and the survey data were organized into appropriate subgroups have already been discussed in the procedure sections above. The next step of analysis involved two statistical procedures—correlation and logistic regression.

4.5.5.1 Correlations

Correlation analysis was mainly carried out on the pupils' school-based examination results over the three years as well as the PSAT. A correlation is
the measure of the linear relationship between two consecutive years' assessment results to detect whether performance in one year had any relationship with the performance in the following year for a given subject. Correlation analysis was also carried out on the data obtained from the pupil questionnaire to gauge the pattern of relationship between the performance level and all the remaining variables.

4.5.5.2 Multiple Regression Procedures

Although correlation analysis is a useful research tool, it is limited in the sense that it is only able to show whether there is any relationship between two variables, and whether the relationship that exists is negative or positive. It is not able to say anything about the predictive power of the variables. As this study is interested on formulating a statistical model that can be used to reliably predict/identify poor learners, the logistic regression analysis (form of multiple regression) was employed as the next step of analysis. The rationale and the results of the logistic regression analysis will be discussed in detail in Chapter Seven.
EXAMINATION RESULTS: FINDINGS AND DISCUSSION

5.0 Introduction

As stated in section 1.1 in Chapter One, the main purpose of this study is to investigate and identify factors within the multilingual learning environment in Malaysia, which may account for poor performance among children in national primary schools. It also aimed to draw a comprehensive profile of the poor learner encompassing the various factors identified by the findings from the preliminary study. Based on this aim the data obtained through the second stage investigations in the main study was systematically analyzed using the statistical procedures outlined in Chapter Four.

As indicated by the findings from the teacher interviews conducted in the preliminary study, teachers' described poor learners as those who failed school assessments consistently, cannot read or are slow readers, do not participate in class, do not or are unable to complete in-class work as well as homework assigned to them, are frequently absent from school and when they do come to school they are usually untidily dressed and without proper school equipment such as textbooks, exercise books and pencils. This current research has extended the teachers' profile of a poor learner a few steps further by including a
wider range of variables encompassing gender, ethnicity, socioeconomic status, home, school and language-use factors and investigated the influence of these factors on academic achievement. These results will be presented in Chapter Six.

Since the essence of academic performance lies in the level of achievement attained as measured by examination administered by the school, this study will first, in this chapter, present the results of the analysis of the pupils' performance in school-based assessments and the PSAT.

5.1 Examination Results as the Index of Poor Performance

The findings from the preliminary study indicated that after 3 years of primary school education, there were still pupils who were performing below the schools' pass mark level. Of those who managed to move from the poor performance level into the average level between Standard 4 and Standard 5, the pattern of improvement was observed to be unstable. The conclusion made in the preliminary study was the fact that some of the improvements in performance observed between Standard 4 and Standard 5 were too 'big' and that the improvements were 'inconsistent'.

'Big' here refers to the fact that a few children's scores in some of the subjects jumped from 0 in one year to more than 40 in another year. And 'inconsistent'
here refers to the fact that a few children's improvement was only observed in one or two subjects assessed but was still observed to be failing in the other subjects. Furthermore, two years' assessment was insufficient to see a clear pattern in performance. Therefore the main study has taken steps to include pupils' Standard 6 school-based assessment results as well as their PSAT results for further comparison.

Where the preliminary had compared the performance of pupils in the top 5% with the performance of pupils in the bottom 5% over two academic years, the main study compared the performance of pupils in the 1st quartile (poor learners) with the performance of pupils in the 4th quartile (excellent learners) over three academic years.

Correlation analyses between Bahasa Melayu Comprehension and Science, as well as Mathematics were also carried out. This was to see if there was any relationship between competence in the medium of instruction and the ability to perform other academic tasks through that same medium. The results of these analyses are presented below. Histograms and normal Q-Q plots for each individual subject are provided as Appendix 12.
5.1.1 Description of Pupils' Performance in Bahasa Melayu Comprehension

Table 31
Descriptive Statistics of Pupils' Performance in Bahasa Melayu Comprehension (N=409)

<table>
<thead>
<tr>
<th>Bahasa Melayu Comprehension</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>63.17</td>
<td>62.81</td>
<td>60.31</td>
<td>4.13</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>69</td>
<td>66</td>
<td>64</td>
<td>4.00</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>417.168</td>
<td>362.214</td>
<td>379.098</td>
<td>1.120</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>20.42</td>
<td>19.03</td>
<td>19.47</td>
<td>1.06</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>97</td>
<td>95</td>
<td>96</td>
<td>5</td>
</tr>
<tr>
<td>IQR</td>
<td>26.00</td>
<td>26.00</td>
<td>30.00</td>
<td>1.00</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>-0.846</td>
<td>-0.674</td>
<td>-0.621</td>
<td>-1.14</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>0.108</td>
<td>-0.069</td>
<td>-0.174</td>
<td>0.507</td>
</tr>
</tbody>
</table>

Based on the descriptive data in Table 31, the means for this subject indicate a decline trend over the three consecutive years. This downward trend in the measure of central tendency was further confirmed by the same pattern in the median of the score distributions over the three years. The means of the three years suggest that the average level of performance was around 60.31 and 63.17 and did not change much over the three years. Looking at the values for standard deviation and variance, it can be seen that the measures of variability for the Standard 5 (1999) assessment was the smallest, indicating that model does not fit the actual data very well as there are too many outliers. This can also be taken to mean that the pupils' scores in Bahasa Melayu Comprehension are skewed for all three years and especially so for the 1999 assessment. The negative values of skewness for all three years' assessment indicated that more pupils were performing at the lower range (poor to average performance level) of
scores than at the higher range (average to excellent performance level). The kurtosis values suggest the shape of the distribution. A positive kurtosis value indicates a pointy shape and a negative kurtosis value indicates a flat shape. From the descriptive data above it can be seen that, while the 1998 distribution has a pointy shape, the 1999 and 2000 distributions have flat shapes. This suggests that in 1999 and 2000, pupils' scores were not only skewed towards the lower scores, but were also bunched up in the middle; that most pupils in the distribution scored mostly in the poor and middle ranges. The interquartile range indicates the difference between the upper limits of the 1st quartile and the 3rd quartile. The value generated is the observed gap between the highest score among the poor category and the lowest score among the excellent category. In other words the calculation of the interquartile range values excludes the bottom and top 25% quartiles, and would therefore consists of 50% of the observations. The interquartile range provides useful information as to where a pupil stands in comparison to the others and the median. For Bahasa Melayu Comprehension, the observed gap was 30 marks for the Standard 6 school-based assessment.

The year 2000 performance indicated that 50% of the pupils obtained 64 marks and below; the PSAT results indicated that 50% of the pupils scored D and Egrades (4 and 5 aggregates) with most of the distribution skewed to the left. This showed that the level of performance for both the school-based and national examinations were roughly the same; pupils performed slightly better in the school-based assessment than they did in the national PSAT.
Generally, it can be seen from the data that pupils' performance in Bahasa Melayu Comprehension did not show a clear improvement trend over the three years. Although some pupils did improve in the 1999 assessment, the improvement was not stable, as in the following year (2000) their performance declined or reverted back to the level they were performing at in 1998.

Table 32
Number of Pupils within the 1st and 4th Quartiles Based on Bahasa Melayu Comprehension Scores Over Three Years

<table>
<thead>
<tr>
<th>Bahasa Melayu Comprehension</th>
<th>Number of pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998 1st Quartile (0 –51)</td>
<td>57</td>
</tr>
<tr>
<td>1998 4th Quartile (78 – 97)</td>
<td>53</td>
</tr>
<tr>
<td>1999 1st Quartile (8 – 51)</td>
<td>62</td>
</tr>
<tr>
<td>1999 4th Quartile (78 – 95)</td>
<td>48</td>
</tr>
<tr>
<td>2000 1st Quartile (0 – 45)</td>
<td>60</td>
</tr>
<tr>
<td>2000 4th Quartile (76 – 96)</td>
<td>49</td>
</tr>
<tr>
<td>PSAT (Aggregate D and E)</td>
<td>37</td>
</tr>
<tr>
<td>PSAT (Aggregate A)</td>
<td>68</td>
</tr>
</tbody>
</table>

With reference to Table 32, the lowest mark obtained in 1998 was 0, which was obtained by one pupil. In 1999, the same pupil scored 8 over 100, which is the lowest mark for that year. In 2000, this pupil obtained 0 for this subject. In the PSAT, 9.1% or 37 pupils of the total 409 failed this subject. Based on the school grading system, 13% (53 pupils) of the 409 pupils failed the Standard 6 end-of-year Bahasa Melayu Comprehension assessment (see Table 40). When quartile splits were used, similar performance was observed, with 14.7% (60 pupils) of the 409 pupils performing within the 1st quartile range.
Generally, the poor learners' progress in Bahasa Melayu Comprehension was observed to relatively the same over the three years of school-based assessment, but showed a big improvement between the performance in school-based and PSAT. There were 60 poor performers in the school-based assessment but only 37 poor performers in the PSAT. Apart from the obvious conclusion that poor learners improved in their Bahasa Melayu Comprehension performance, it could also be implied from these figures that the level of difficulty of the Standard 6 school-based assessment and that of the national PSAT are not similar.

The similar trend observed in the performance patterns of the excellent learners further supports the conclusion that school-based assessment tools do not reflect similar assessment standards when compared to the tools used in the PSAT.

A more important observation made from this analysis is that although a big percentage of the poor learners showed improvement in their mastery of Bahasa Melayu Comprehension, the fact remains that even up to the end of their primary school education, 37 of the 409 pupils in this sample were still struggling to get past the fail-grade.
5.1.2 Description of Pupils’ Performance in Bahasa Melayu Writing

Table 33

Descriptive Statistics of Pupils’ Performance in Bahasa Melayu Writing
(N = 409)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>60.45</td>
<td>62.70</td>
<td>58.44</td>
<td>3.72</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>66</td>
<td>67</td>
<td>62</td>
<td>4.00</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>517.459</td>
<td>358.635</td>
<td>377.002</td>
<td>1.770</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>22.75</td>
<td>18.94</td>
<td>19.42</td>
<td>1.33</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>98</td>
<td>96</td>
<td>98</td>
<td>5</td>
</tr>
<tr>
<td>IQR</td>
<td>32</td>
<td>25</td>
<td>27</td>
<td>2.00</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>-0.810</td>
<td>-0.945</td>
<td>-0.491</td>
<td>-0.884</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>-0.313</td>
<td>0.533</td>
<td>-0.545</td>
<td>-0.336</td>
</tr>
</tbody>
</table>

With reference to Table 33, pupils’ performance in this subject was observed to have a similar pattern to the performance pattern for Bahasa Melayu Comprehension with 50% of the scores ranging between 0 and 62.70 and with the distribution skewed to the left. The measure of variability is the smallest in the Standard 5 assessment (1999) with a standard deviation of 18.94. The 1999 results were also observed to be most heavily skewed to the left in comparison to that of 1998 and 2000, with the value of negative 0.945.

Unlike the results for Bahasa Melayu Comprehension, the PSAT results for this subject were observed to be similar to the results for the school-based assessment. In terms of the shape of the distribution, the PSAT results were almost as heavily skewed to the left as the results for 1999, with a value of negative 0.884, but not as skewed for the year 2000 results (which had a
skewness value of negative 0.491). In this sense the PSAT results were further away from normal distribution than the school-based Standard 6 results.

Again here, the mean and median indicated that pupils' performance improved slightly between 1998 and 1999, but went down to a level even lower than that in 1998 the following year (2000). In 1998, among the 50% of the pupils who scored more than 66 marks, the most frequently obtained score was 80. In 1999, among the 50% who scored more than 67 marks, the lowest value identified as the most frequently obtained score was 70 marks. In 2000, the most frequently obtained score fell even lower than 68 marks, with 50% of the sample scoring 62 marks and below.

When excellent pupils are observed to have lower scores in one year in comparison to the scores in the previous year, it suggests that the excellent learners had problems with that year's examination paper. It could be that they have not mastered the items tested on the paper, or that the paper tested items they have not yet mastered. When the problem is in the examination paper given, then it would be expected that the poor learners' scores would also show a decline; which is the case with the scores in this subject.

The lowest mark obtained in 1998 was 0 and one pupil attained that mark. In 1999, 3 pupils attained the lowest mark of 0, including the one child who obtained 0 in 1998. In 2000, this child although scoring the lowest mark, managed to
improve from 0 the two previous years to 10 marks over 100. In contrast, one pupil within the excellent learner group obtained the highest score of 98 in 1998. In 1999, the highest score was 96, which was obtained by 2 pupils. In 2000, 2 pupils obtained the highest score of 98 over 100.

Table 34

Number of Pupils within the 1st and 4th Quartiles Based on Bahasa Melayu Writing Scores Over Three Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Quartile</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>1st Quartile (0 - 45)</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>4th Quartile (78 – 98)</td>
<td>54</td>
</tr>
<tr>
<td>1999</td>
<td>1st Quartile (0 - 51)</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>4th Quartile (77 – 96)</td>
<td>47</td>
</tr>
<tr>
<td>2000</td>
<td>1st Quartile (10 – 45)</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>4th Quartile (73 – 98)</td>
<td>47</td>
</tr>
<tr>
<td>PSAT (Aggregate D and E)</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>PSAT (Aggregate A)</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in Table 34, in 1998, poor performers were scoring between 0 to 45 marks. Their performance improved slightly in 1999 with pupils scoring between 0 to 51 marks. However, in 2000, poor learners' performance reverted back to the level of 1998 (but with no one scoring below 10 marks). This trend of performance indicated that the poor learners generally remained at almost the same level performance over the three consecutive years. Based on the school grading system for the PSAT (Table 40), 45 pupils (11%) of the 409 obtained fail
grades in this subject, and all 45 pupils obtained E-grades (Table 39). For the Standard 6 school-based assessment, 70 (17.2%) failed Bahasa Melayu Writing (Table 39). In comparison, with the quartile splits, 62 pupils or 15.2% performed within the 1st quartile range in the Standard 6 school-based examinations and the same number failed in the PSAT.

The excellent learners scored between 79 and 98 in 1998. This dropped to a range of between 77 and 96 in 1999 and dropped further to a range of 73 and 98 in 2000. The data indicated that there was a consistent drop in the excellent learners’ performance from 1998 to 2000.

In general, for Bahasa Melayu Writing, both poor learners and excellent learners performed relatively on a plateau over the three years of school-based assessments, as well as for the PSAT. However, there were more failures (62 pupils for both Standard 6 assessment and PSAT) than there were excellent learners (47 pupils for the school-based and 50 for the PSAT). This finding supports the teachers’ perception (from preliminary study) that pupils, especially poor learners, find Bahasa Melayu Writing more difficult than Bahasa Melayu Comprehension.
Based on Table 35, the mean scores for Mathematics over the three years were observed to be lower than the means for the two language components. Again the trend indicated that the data points were furthest away from the mean in the 1999 results, with the smallest variance statistic of 486.287 and a standard deviation of 22.05. The values for skewness, however, although negative (except for 1999) were very small. The PSAT data points were observed to be the furthest away from the normal distribution in comparison to the three school-based results, with a skewness value of negative 0.705.

As can be seen from the data, although there was improvement in the mean score between 1999 and 2000, the mean score of 53.67 was observed to be nevertheless lower than the 1998 mean score of 54.88 indicating an unstable pattern that fluctuates. It was also observed that the most frequently obtained score in 1998 was 80 marks, indicating a performance that was generally skewed.
towards the excellent learners. But in 1999, the trend shifted to one that was
skewed more towards the poor learners with 28 marks as the most frequently
observed score. In 2000, there was a mixture of levels in performance with the
lowest value of 73 marks as the most frequently observed score.

There was only one pupil who obtained the lowest mark of 4 in 1998. The same
pupil also obtained the lowest mark of 2 in 1999. In 2000, 3 pupils obtained the
lowest mark of 0. In contrast, 5 pupils within the excellent learner group obtained
the highest mark of 100 in 1998. In 1999, 2 pupils scored the highest mark of 97.
These were also the same 2 pupils who scored the highest mark of 98 in 2000.

Table 36

Number of Pupils within the 1st and 4th Quartiles Based on Mathematics
Scores Over Three Years

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998 1st Quartile (4 – 30)</td>
<td>58</td>
</tr>
<tr>
<td>1998 4th Quartile (79 – 100)</td>
<td>56</td>
</tr>
<tr>
<td>1999 1st Quartile (2 – 34)</td>
<td>59</td>
</tr>
<tr>
<td>1999 4th Quartile (68 – 97)</td>
<td>55</td>
</tr>
<tr>
<td>2000 1st Quartile (0 – 32)</td>
<td>62</td>
</tr>
<tr>
<td>2000 4th Quartile (74 – 98)</td>
<td>58</td>
</tr>
<tr>
<td>PSAT (Aggregate D and E)</td>
<td>51</td>
</tr>
<tr>
<td>PSAT (Aggregate A)</td>
<td>64</td>
</tr>
</tbody>
</table>
As indicated in Table 36, in 1998 14.2% of the poor learners were scoring between 4 and 30 marks. The poor learners showed very small improvement in 1999 with 14.4% of the pupils obtaining scores ranging between 2 to 34 marks. However, in 2000 there was a drop in the poor learners' performance with 15.2% scoring within the 0 and 32 marks range, a range that was observed to be lower than that of 1998. In the PSAT, 51 pupils or 12.5% obtained the failed grade. In comparison, 64 pupils (16%) obtained the fail grade in the Standard 6 school-based assessment (based on the school grading system). These figures indicate that there was a higher percentage of failures in the school-based Standard 6 assessment, than there were in the national PSAT. Therefore, the quartile splits could be a more suitable method to categorize pupils into performance groups because the number of pupils included within the set range was observed to be closer to the percentage of failures in the national PSAT, and that the school grading system tended to exclude a number of potential failures.

Among the excellent learners, performance also showed a small drop between 1998 and 1999. The lowest score in 1998 was 79 marks and this dropped to 68 in 1999. Although the highest score improved between 1999 and 2000 to 74 marks, this score was observed to be lower than that in 1998.

The analysis indicated that the trend in poor learners' Mathematics performance level was relatively the same over the three years for school based assessments and showed a small improvement between the school-based assessment and
the PSAT. The trend of performance among excellent learners was also observed to be similar in this subject. However there were more excellent performers than there were poor performers.

5.1.4 Description of Pupils' Performance in Science

Table 37

Descriptive Statistics of Pupils' Performance in Science (N = 409)

<table>
<thead>
<tr>
<th>SCIENCE</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>55.08</td>
<td>55.14</td>
<td>54.75</td>
<td>3.50</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>58</td>
<td>57</td>
<td>58</td>
<td>3</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>578.233</td>
<td>409.591</td>
<td>469.132</td>
<td>1.383</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>24.05</td>
<td>20.24</td>
<td>21.66</td>
<td>1.18</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>98</td>
<td>94</td>
<td>98</td>
<td>5</td>
</tr>
<tr>
<td>IQR</td>
<td>43</td>
<td>30.50</td>
<td>35.00</td>
<td>2.00</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>-0.213</td>
<td>-0.356</td>
<td>-0.314</td>
<td>-0.332</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>-1.111</td>
<td>-0.689</td>
<td>-0.852</td>
<td>-0.680</td>
</tr>
</tbody>
</table>

Table 37 indicates that the pattern of performance for this subject was similar to that of Mathematics with the results for 1999 to having the smallest variance statistic of 409.591 and a standard deviation of 20.24. The 1999 results were also observed to have data points the furthest away from the normal distribution among all the results for this subject. The values skewness for all three years of school-based assessment as well as that of the PSAT, although negative, was observed to be relatively small in comparison to those found in the two Bahasa Melayu components.
In 1998, one pupil obtained the lowest score of 4 marks over 100. In 1999, the lowest score improved slightly to 7 marks over 100; one pupil obtained this score. The lowest score in 2000 went back to 0 with one pupil obtaining this score.

Among the excellent learners, 5 pupils obtained the highest score of 98 over 100 in 1998. In 1999, one pupil obtained the highest score of 94 over 100. 2 pupils obtained the highest score of 98 in 2000.

Table 38

<table>
<thead>
<tr>
<th>Science</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998 1st Quartile (4 - 34)</td>
<td>62</td>
</tr>
<tr>
<td>1998 4th Quartile (78 - 98)</td>
<td>55</td>
</tr>
<tr>
<td>1999 1st Quartile (7 - 40)</td>
<td>60</td>
</tr>
<tr>
<td>1999 4th Quartile (71 - 94)</td>
<td>52</td>
</tr>
<tr>
<td>2000 1st Quartile (0 - 37)</td>
<td>64</td>
</tr>
<tr>
<td>2000 4th Quartile (73 - 98)</td>
<td>58</td>
</tr>
<tr>
<td>PSAT (Aggregate D and E)</td>
<td>49</td>
</tr>
<tr>
<td>PSAT (Aggregate A)</td>
<td>51</td>
</tr>
</tbody>
</table>

According to Table 38, among the poor learners, the lowest performance was observed in the 1998 assessment with scores ranging between 4 and 34 marks. The best performance was observed in the 1999 assessment with scores ranging
between 7 and 40. A drop in the performance was later observed in the 2000 assessment with scores ranging between 0 and 37 marks.

The same trend of performance level was observed among the excellent learners with the best performance depicted in the 1998 assessment (scores ranging between 78 and 98 marks). The poorest performance observed for the excellent learners was in the 1999 assessment with scores ranging between 71 and 94 marks). Although an improvement was observed between 1999 and 2000, the scores ranging between 73 and 98 marks were lower than those observed for the 1998 assessment.

With the PSAT results, 49 or 12% of the 409 pupils obtained fail grades in this subject. When the school grading system was applied, 64 or 15.7% of the 409 pupils were observed to have failed this subject in the Standard 6 school-based assessment. The quartile split also generated the same number of pupils (64) who performed within the 1st quartile range. Therefore, there were more failures in the school-based examination in comparison to the PSAT.

With the excellent performers, 58 or 14.2% were performing within the 4th quartile range in the Standard 6 school-based assessment. When the school grading system was used to categorize the pupils into performance groups, 35 pupils or 8.6% were observed to have obtained A grades in the Standard 6 school-based
In comparison, the number of A grades obtained in the national PSAT was recorded as 52 or 12.7%.

In general, pupils' performance in Science was observed to be lower than that of their performance in Bahasa Melayu but slightly better than their performance in Mathematics. Poor learners performed best in Bahasa Melayu Comprehension and worst in Science. In contrast, excellent learners maintained relatively the same level of performance in all four subjects over the three years.

5.1.5 Poor Performers Based on Absolute Scores in Examination

The analysis has categorized pupils into performance level groups based on the calculation of the quartile splits. In Tables 39, 40 and 41 below, pupils' actual scores in the examinations were analyzed to investigate how many pupils would fall into the poor learner category using the school grading system. In the school grading system, D (score range of 20 – 39) and E (score range of 0 – 19) are both fail grades. Using the schools' definition of a poor learner as one who has been failing consistently over a period of time, the derived number of pupils in the poor learner category included only those who obtained grades D and E in all subjects over three years.
Table 39

Number of D and E Grades Based on Pupils' Absolute Scores in Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science Over Three Years

<table>
<thead>
<tr>
<th></th>
<th>E Grade (0 – 19 marks)</th>
<th>D grade (20 – 39 marks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td>12 (2.9%)</td>
<td>6 (1.5%)</td>
</tr>
<tr>
<td>Bahasa Melayu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>32 (7.8%)</td>
<td>12 (2.9%)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>34 (8.3%)</td>
<td>23 (5.6%)</td>
</tr>
<tr>
<td>Science</td>
<td>32 (7.8%)</td>
<td>21 (5.1%)</td>
</tr>
</tbody>
</table>

Table 40

Total Number of Failures

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td>52 (12.8%)</td>
<td>45 (11%)</td>
<td>53 (13%)</td>
<td>40 (9.8%)</td>
</tr>
<tr>
<td>Bahasa Melayu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>70 (17.1%)</td>
<td>45 (11%)</td>
<td>70 (17.2%)</td>
<td>45 (11%)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>142 (34.7%)</td>
<td>131 (32%)</td>
<td>131 (32%)</td>
<td>72 (17.6%)</td>
</tr>
<tr>
<td>Science</td>
<td>120 (29.3%)</td>
<td>93 (22.7%)</td>
<td>135 (33.1%)</td>
<td>74 (18.1%)</td>
</tr>
</tbody>
</table>

Table 41

Number of Poor Learners Based on Pupils' Absolute Scores

<table>
<thead>
<tr>
<th></th>
<th>Bahasa Melayu Comprehension</th>
<th>Bahasa Melayu Writing</th>
<th>Mathematics</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32 (7.8%)</td>
<td>48 (11.7%)</td>
<td>102 (24.9%)</td>
<td>65 (15.9%)</td>
</tr>
</tbody>
</table>
5.2 Remedial Intervention and Pupils' Performance

In order to investigate whether there had been any improvement in pupil performance with remedial intervention, descriptive statistics were carried out on the scores obtained by pupils who had attended remedial program at their various schools. Of the 409 pupils in the sample, 24 pupils had attended remedial programmes. There was no information available on when the pupils began or ended their remedial programmes or on the exact content of their remedial programmes. The analysis involved only their examination scores. The results of this analysis are presented in Tables 42 through 45 below. The main observation here is that remedial teaching has not been able to improve the pupils' level of performance in all four subjects.

Table 42
Descriptive Statistics of Remedial Pupils' Performance in Bahasa Melayu Comprehension

<table>
<thead>
<tr>
<th>BAHASA MELAYU COMPREHENSION</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>30</td>
<td>31.13</td>
<td>29.75</td>
<td>2.25</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>26</td>
<td>34</td>
<td>32</td>
<td>2.00</td>
</tr>
<tr>
<td>MODE</td>
<td>20</td>
<td>20</td>
<td>28</td>
<td>2.00</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>290.17</td>
<td>167.42</td>
<td>219.59</td>
<td>.072</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>17.03</td>
<td>12.94</td>
<td>14.82</td>
<td>2.00</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>70</td>
<td>64</td>
<td>56</td>
<td>5</td>
</tr>
<tr>
<td>RANGE</td>
<td>70</td>
<td>56</td>
<td>56</td>
<td>4</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>0.560</td>
<td>0.341</td>
<td>-0.243</td>
<td>1.347</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>-0.008</td>
<td>0.219</td>
<td>-0.753</td>
<td>3.858</td>
</tr>
</tbody>
</table>
Table 43

Descriptive Statistics of Remedial Pupils' Performance in Bahasa Melayu Writing

<table>
<thead>
<tr>
<th>BAHASA MELAYU WRITING</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>25.25</td>
<td>30.71</td>
<td>28.83</td>
<td>1.42</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>25</td>
<td>30</td>
<td>25.50</td>
<td>1.00</td>
</tr>
<tr>
<td>MODE</td>
<td>10</td>
<td>18</td>
<td>20</td>
<td>1.00</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>156.02</td>
<td>192.65</td>
<td>129.36</td>
<td>0.78</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>12.49</td>
<td>13.88</td>
<td>11.27</td>
<td>0.60</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>54</td>
<td>56</td>
<td>55</td>
<td>4</td>
</tr>
<tr>
<td>RANGE</td>
<td>54</td>
<td>56</td>
<td>55</td>
<td>4</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>0.230</td>
<td>0.095</td>
<td>0.978</td>
<td>2.133</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>0.279</td>
<td>-0.470</td>
<td>0.119</td>
<td>4.668</td>
</tr>
</tbody>
</table>

Table 44

Descriptive Statistics of Remedial Pupils' Performance in Mathematics

<table>
<thead>
<tr>
<th>MATHEMATICS</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>18</td>
<td>24.50</td>
<td>18.13</td>
<td>1.63</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>15.50</td>
<td>24.50</td>
<td>15.50</td>
<td>1.00</td>
</tr>
<tr>
<td>MODE</td>
<td>14</td>
<td>20</td>
<td>15</td>
<td>1.00</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>38.96</td>
<td>102.43</td>
<td>74.38</td>
<td>0.59</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>6.24</td>
<td>10.12</td>
<td>8.62</td>
<td>0.77</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>32</td>
<td>53</td>
<td>31</td>
<td>3</td>
</tr>
<tr>
<td>RANGE</td>
<td>22</td>
<td>51</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>0.812</td>
<td>0.400</td>
<td>-0.315</td>
<td>0.790</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>-0.106</td>
<td>2.064</td>
<td>-0.090</td>
<td>-0.793</td>
</tr>
</tbody>
</table>

Table 45

Descriptive Statistics of Remedial Pupils' Performance in Science

<table>
<thead>
<tr>
<th>SCIENCE</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>PSAT 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>19.71</td>
<td>24.08</td>
<td>20.38</td>
<td>1.88</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>21</td>
<td>21</td>
<td>17.5</td>
<td>2</td>
</tr>
<tr>
<td>MODE</td>
<td>24</td>
<td>20</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>68.22</td>
<td>124.34</td>
<td>132.34</td>
<td>0.46</td>
</tr>
<tr>
<td>STD. DEV</td>
<td>8.26</td>
<td>11.15</td>
<td>11.50</td>
<td>0.68</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>34</td>
<td>48</td>
<td>48</td>
<td>3</td>
</tr>
<tr>
<td>RANGE</td>
<td>30</td>
<td>41</td>
<td>48</td>
<td>2</td>
</tr>
<tr>
<td>SKEWNESS</td>
<td>-0.280</td>
<td>0.487</td>
<td>0.695</td>
<td>0.156</td>
</tr>
<tr>
<td>KURTOSIS</td>
<td>-0.661</td>
<td>-0.516</td>
<td>0.194</td>
<td>-0.653</td>
</tr>
</tbody>
</table>
5.3 Correlation

Correlation analyses were carried out on pupils' school-based examination results for the three consecutive years 1998, 1999, and 2000, and the year 2000 PSAT results. This was done to investigate what relationships exist between one years' assessment and another and between the school-based Standard 6 assessment and the national PSAT.

Through the descriptive statistics of the examination results presented in section 5.1.1 above, it was highly likely that the distribution of the examinations scores were not normally distributed. To confirm this suspicion, the Kolmogorov-Smirnov (K-S) test of normality was carried out on the examination scores data before running the correlation analyses. The result of the K-S test is presented as Appendix 13.

The K-S test indicated that the school-based examination data for all three years as well as the data for the PSAT were not normally distributed. An interesting observation is that the PSAT results had the largest K-S values (K-S (409) = 0.285, p<0.05; K-S (409) = 0.253, p<0.05; K-S (409) = 0.255, p<0.05; K-S (409) = 0.175, p<0.05) for Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science respectively.
Having determined that the data were not normally distributed, the Spearman's correlation coefficients were calculated. The result of this analysis is presented as Appendix 14.

The Spearman's correlation coefficients indicated that examination scores between two consecutive years for pairs of the same subjects (for example the correlation coefficient for Bahasa Melayu 1998 and 1999 was 0.741 which was significant at the 0.01 level) in the school-based assessments correlate positively with each other at the 0.01 level, 2-tailed. It was therefore concluded from the correlation values that performance in the same subjects for 1999 correlates with performance for 1998, performance for 2000 correlates with performance for 1999, and performance for school-based assessment 2000 correlates with performance for PSAT 2000. In other words, the better the performance attained in one year, 1998 for example, the better would be the performance in the next year, 1999.

It was also observed that the Bahasa Melayu Comprehension also correlates with Mathematics and Science, indicating that the better the pupil is at Bahasa Melayu, the better his performance in Mathematics and Science is likely to be. The correlation suggests that pupils' poor performance may not so much be due to poor academic skills in the subjects of Mathematics and Science but more likely due to poor acquisition of the language of instruction, Bahasa Melayu.
Correlations although useful in indicating the relationships between variables are not able to reveal the predictive power of variables. For this the regression analysis was carried out. The findings from the regression analysis will be the subject of Chapter Seven.
CHAPTER SIX

QUESTIONNAIRES: FINDINGS AND DISCUSSION

6.0 Introduction

The data obtained from the three sets of questionnaires will be discussed separately in the ensuing section. The data from the teacher questionnaire are extensions to the information gathered through the teacher interviews carried out in the preliminary study. The bulk of the data will come from the pupil questionnaire and these will be analyzed based on the factors identified through the literature review and preliminary study to have influence on academic achievement—gender, ethnicity, socioeconomic status, school, home and language-use pattern. Finally this chapter will also present and discuss the data obtained from the parent questionnaire.

6.1 Teacher Questionnaire

The teacher data covered three areas:

• General background information
  
  o Age, gender, ethnicity, educational attainment, duties at school, teaching experience;

• Perception of school practices
  
  o Remedial programme, parental involvement, providing extra help to pupils;

• Language-use pattern
  
  o General – Number of languages spoken, mother tongue
6.1.1 Teacher Sample Description

As can be seen in Table 46 the teacher sample consisted of 41 teachers all of whom have obtained teaching certificates from various teaching colleges in Malaysia.

The sample consists of almost double the number of lady teachers (61%) to male teachers (39%). In terms of ethnicity, the majority (76%) are Malays. These statistics on the whole are expected where Malaysia is concerned. The popularity of the teaching profession among the ladies, and especially among Malay ladies, can be easily attested to by visiting any school in the country. Traditionally, Muslim ladies are not expected to hold high profile professional positions, if they at all want to hold a profession. Instead they are expected to be full time housewives and mothers. When Muslim women do go out to work, being a teacher is traditionally considered a more appropriate line of work compared to being an engineer or an accountant because of the shorter time spent at work in the school.
Table 46
Teacher Sample Description (General Background Information)

<table>
<thead>
<tr>
<th>Age group</th>
<th>MALE (n = 14)</th>
<th>FEMALE (n = 2)</th>
<th>MALE (n = 17)</th>
<th>Chinese (n = 2)</th>
<th>Indian (n = 5)</th>
<th>Punjabi (n = 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30 yrs old</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>31-40 yrs old</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41-50 yrs old</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Educational attainment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPM</td>
<td>4</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>STPM</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>DIPLOMA</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of duties</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Number of years teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1 - 5 years</td>
<td>10</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5 - 10 years</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10 - 15 years</td>
<td>1</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 - 20 years</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 - 30 years</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Course attended</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>6</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Teaching is also perceived in the culture as more suitable to ladies due to their so-called nurturing nature. These are Asian values and may not fit in with the sentiments of western women. However, without evidence, it cannot be ascertained as to whether the teachers in this sample (whether man or woman) are in the profession purely for the love of teaching or because of other more
pragmatic reasons. Nevertheless, the gender and ethnicity statistics for this sample appear to still reflect these traditional inclinations.

The fact that the majority of the sample (68%) is relatively young (between 21 to 30 years old) indicates that for some reason, they have decided not to pursue tertiary education. Currently, Malaysian primary school teachers are not university graduates. Acceptance into teacher training college requires only a pass at the SPM level (Form Five). The choice to pursue a teacher training course and then work maybe due to financial constraints—to support aging parents for example—as most primary school teachers are from the rural areas (personal communication).

The choice may also be due to individuals' ineligibility to secure placement in Form Six because of insufficient SPM requirements. The normal route to tertiary education would require two more years of secondary education (Lower Six and Upper Six) to obtain the STPM qualifications necessary for university entrance. Of the 41 trained teachers, 46% completed education at the middle secondary level (having obtained the SPM), 49% completed Sixth Form (having obtained the STPM) and the remainder 5% had obtained Diploma level of education.

At the schools, teachers are obliged to take on other duties apart from teaching. These duties maybe curriculum related such as subject heads, or school administrative duties such as Head of Student Affairs division (see Appendix 5: School Organizational Chart. As can be seen from the data, only a minority is
doing the minimum, which is 1 duty. The majority (88%) is holding 2-3 duties apart from teaching. This implies that primary school teachers in Malaysia are obliged to spend most of their non-teaching hours administrating other duties such as co-curricular activities. And because the weekdays have been filled with academic lessons, teachers might have to come in on weekends to carry out the co-curricular duties.

The teacher sample is made up of teachers with different levels of teaching experience. A majority of the teacher sample (71%) are fairly new in the field of teaching, with between 1 to 5 years teaching experience. There are two ways to interpret this trend in the absence of other evidence—that the teachers in this sample are up-to-date with the latest innovations in pedagogy since they had just graduated from teacher training college, or that they are still too new and inexperienced and have "got the feel" of what the profession entails. And because they are still new to the profession, they may not be selected to attend in-service courses.

When teachers were asked the number of times they have been selected to attend in-service courses between 1997 and 2000, 37% said they have not. Of the remainder, 17% have attended 1 course over a period of 3 years, another 17% have attended 2 courses and 29% have attended 3 courses.
At teachers' training college, trainees are allowed to choose a number of subjects they want to specialize in. Responses from the teacher sample indicate that upon posting at the schools, 58% of them are teaching, on top of their specialized areas, subjects they had not been trained for at college. In contrast, 42% of the sample is teaching only their specialized subjects.

In general, teachers from high performance schools (as indicated in the findings of the preliminary study, School A and School D are the better performing schools of the four) are older and by implication have more years of teaching experience than teachers from low performance schools. In terms of qualification, a higher proportion of the teachers in the low performance schools possess the SRP qualification only as compared with the higher educational attainment of the teachers in the higher performance schools. The proportions of teachers with the STPM and diploma qualifications in the higher performance schools are almost twice those of the low performance schools. This implies that the more experienced the teachers and the higher their educational attainment, the more likely are their pupils to perform better.

In support of this observation, the data further indicate that a larger proportion of teachers in high performance schools almost always give pupils oral and written work in class, explain lessons in class, assign homework and provide revision lessons as compared with teachers in low performance schools. It is interesting to note that a larger proportion of teachers in the low performance schools than
those in the high performance schools tend to almost always provide pupils with additional classes and train pupils in answering examination questions.

6.1.2 Teachers’ Perception of School Practices

In reference to Table 47, teachers were asked on the success of the remedial programme. 12% of the teachers do not know, 15% rated it as not successful, 49% rated it as partially successful and 24% rated it as successful. When asked how involved parents are with their children’s schooling, 15% of the teachers said parents are not at all involved, 54% said they are partially involved, 29% said they are involved and 2% said they are actively involved.

Teachers were also asked to state how frequently they spend time outside of teaching to provide pupils help with their schoolwork. 20% said they rarely do so, 58% said they sometimes do so and 22% said they often do so. In the absence of efficient and appropriate remedial provision for poor learners, teachers and parents are where children who need it would turn for help. However, as the data indicated, teachers are unable or unsure of how to provide help and parents are probably in the same position.

Similar to the findings from the interviews carried out in the preliminary study, the teachers interviewed in this main study made no mention of the inclusive education practices. This confirms the contention that in spite of the Education
Ministry's support for inclusive education as stated in the 1994 Salamanca Statement, the four schools included in this study have not yet made the move towards integration. The teachers at these schools are still working towards expanding the present remedial teaching practices whereby pupils are taken out of mainstream classes to be taught separately in remedial classes. In schools where remedial classes are not yet in place, the teachers strongly feel that such programmes should begin as they feel they are not able to cater to the special needs of some pupils in their mainstream classes. Nevertheless, there is some collaboration among the teachers in providing educational services to pupils with difficulties coping with learning. The mainstream teachers would make recommendation for pupils whom they have observed through school-based assessments to be put into remedial programmes. However, the mainstream teachers' recommendation does not necessarily guarantee a pupil a place in the remedial programme. As mentioned earlier, to be given a place in the remedial programme, a pupil would have to be identified by the diagnostic test set by the Ministry of Education to have reading difficulties. However, the diagnostic test does not identify what specific reading problems a particular pupil might be facing. Furthermore when the child has been diagnosed as a poor, slow or unable to read, the remedial programme requires that the child be taken out during their Bahasa Melayu lessons in order to attend remedial reading instructions. At other times, the child will remain in the mainstream classes where remediation for their academic difficulties depends entirely on the mainstream teachers' discretion. More often, as indicated by the teachers in this
sample, mainstream teachers do not attend to the pupil's special needs due to time constraints.

Table 47

Teacher Sample Description (School Practices)

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th></th>
<th>FEMALE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Malay (n = 14)</td>
<td>Indian (n = 2)</td>
<td>Malay (n = 17)</td>
<td>Chinese (n = 2)</td>
</tr>
<tr>
<td>Success of remedial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not successful</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Partially successful</td>
<td>7</td>
<td>10</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Successful</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Parents’ involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not involved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially involved</td>
<td>10</td>
<td>1</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Involved</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Actively involved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency help pupils</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rarely</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>8</td>
<td>10</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Often</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

6.1.3 Language-use Pattern

Table 48 presents information on the teachers' general linguistic background. 46% of the teachers said they can speak one language, 20% said they can speak 2 languages, 29% said they can speak 3 languages and 5% said they can speak 4 languages.
Table 48
Teacher Sample Description (General Linguistic Background)

<table>
<thead>
<tr>
<th></th>
<th>MALE (N = 16)</th>
<th></th>
<th>FEMALE (N= 25)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Malay (n = 14)</td>
<td>Indian (n = 2)</td>
<td>Malay (n = 17)</td>
<td>Chinese (n = 2)</td>
</tr>
<tr>
<td>Number of languages spoken</td>
<td>1</td>
<td>8</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mother tongue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahasa Melayu</td>
<td>13</td>
<td></td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Tamil</td>
<td>2</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Javanese</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mandarin</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hokkien</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Punjabi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home language</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahasa Melayu</td>
<td>13</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hokkien</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamil</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bahasa Melayu and Javanese</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamil and English</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Bahasa Melayu and English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hokkien and English</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Punjabi and English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hokkien and Mandarin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For 74% of the teachers, their mother tongue is Bahasa Melayu, for 17% it is Tamil, for 2% it is Javanese (an Indonesian language), for another 2% it is Mandarin, for 2% it is Hokkien and for the remainder 2% it is Punjabi. At home, 72% of the teachers speak Bahasa Melayu, 2% speak English, 2% speak Hokkien and 7% speak Tamil. A proportion of the teachers speak a mixture of
two languages—2% speak Bahasa Melayu and Javanese, 7% speak Tamil and English, 2% speak Bahasa Melayu and English, 2% speak Hokkien and English, 2% speak Punjabi and English and 2% speak Hokkien and Tamil.

Table 49 below presents the teachers' language use patterns at school. 49% of the teachers said they are fluent in Bahasa Melayu and 51% said they are very fluent. As can be seen in the data, 76% of the teacher sample is Malay with Bahasa Melayu as their mother tongue. These same teachers make up the 76% of the teacher sample who are native speakers of Bahasa Melayu. The remaining 34% comprised of 5% who first learned Bahasa Melayu at home, and 17% who first learned the language formally at school and 2% who learned Bahasa Melayu both at home and at school.

### Table 49

**Teacher Sample Description (Language-use at School)**

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th></th>
<th>MALE</th>
<th></th>
<th>FEMALE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency in</td>
<td>Malay</td>
<td>Indian</td>
<td>Malay</td>
<td>Chinese</td>
<td>Indian</td>
<td>Punjabi</td>
</tr>
<tr>
<td>BAHASA</td>
<td>(n = 14)</td>
<td>(n = 2)</td>
<td>(n = 17)</td>
<td>(n = 2)</td>
<td>(n = 5)</td>
<td>(n = 1)</td>
</tr>
<tr>
<td>MELAYU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluent</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Very fluent</td>
<td>8</td>
<td>1</td>
<td>10</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where learned</td>
<td>Malay</td>
<td></td>
<td>Chinese</td>
<td></td>
<td>Indian</td>
<td></td>
</tr>
<tr>
<td>BAHASA MELAYU</td>
<td>Home</td>
<td></td>
<td>(n = 2)</td>
<td></td>
<td>(n = 5)</td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Home and school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Native speaker</td>
<td>14</td>
<td></td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency use BAHASA MELAYU to teach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>13</td>
<td>1</td>
<td>17</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every time</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency use BAHASA MELAYU outside teaching</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Every time</td>
<td>10</td>
<td>1</td>
<td>14</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency use BAHASA MELAYU discussing school matters</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Every time</td>
<td>10</td>
<td>1</td>
<td>15</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency use BAHASA MELAYU discussing personal matters</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Every time</td>
<td>10</td>
<td>1</td>
<td>14</td>
<td>1</td>
</tr>
</tbody>
</table>

When teachers were asked to rate the frequency they use Bahasa Melayu in three different situations at school—during teaching, outside teaching and during private conversations—29% said they teach in Bahasa Melayu sometimes, 15% said they do so often and 56% said the do so every time. In terms of the frequency Bahasa Melayu is used when discussing school matters with other teachers outside of teaching, 34% said they do so often and 66% said they do so every time. When talking to other teachers in private about personal matters, 27% said they do so in Bahasa Melayu often and 73% said they do so in Bahasa
Melayu every time. Since the ethnicity statistic of this sample indicated a majority of the teachers are Malays, it would be expected that Bahasa Melayu would be the main language spoken. It could also be implied that pupils would have extensive opportunity to use and practise Bahasa Melayu and therefore explains why teachers say most pupils would not have any prolonged difficulties mastering the language.

6.2 Pupil Questionnaire

The data presented in this section consist of only the pertinent factors of all the information obtained from the pupil questionnaire. Initial analysis involved carrying out bivariate descriptive statistical procedures. These procedures were carried to determine the pattern and strength of the relationship between the set of variables and academic achievement. Academic achievement at this level refers to the performance level categories—poor, average, good and excellent. The variables that were found to have relationships with poor performance are presented and discussed in the following sections.

6.2.1 Gender and Ethnicity

<table>
<thead>
<tr>
<th>GENDER/ETHNICITY</th>
<th>MALAY</th>
<th>CHINESE</th>
<th>INDIAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOYS</td>
<td>184 (45%)</td>
<td>37(9%)</td>
<td>55(13.4%)</td>
<td>276 (67.5%)</td>
</tr>
<tr>
<td>GIRLS</td>
<td>70 (17.1%)</td>
<td>31(7.6%)</td>
<td>32(7.8%)</td>
<td>133 (32.5%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>254 (62.1%)</td>
<td>68(16.6%)</td>
<td>87(21.3%)</td>
<td>409 (100%)</td>
</tr>
</tbody>
</table>
Table 51

Pupil Sample Description by Gender, Ethnicity: Poor and Excellent Groups
(100% = 409 Pupils)

<table>
<thead>
<tr>
<th></th>
<th>POOR</th>
<th>EXCELLENT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOYS</td>
<td>MALAY</td>
<td>(48) 11.7%</td>
<td>(15) 3.6%</td>
</tr>
<tr>
<td></td>
<td>CHINESE</td>
<td>(3) 0.73%</td>
<td>(10) 2.5%</td>
</tr>
<tr>
<td></td>
<td>INDIAN</td>
<td>(12) 2.9%</td>
<td>(6) 1.5%</td>
</tr>
<tr>
<td>GIRLS</td>
<td>MALAY</td>
<td>(3) 0.73%</td>
<td>(15) 3.6%</td>
</tr>
<tr>
<td></td>
<td>CHINESE</td>
<td>(1) 0.25%</td>
<td>(16) 3.9%</td>
</tr>
<tr>
<td></td>
<td>INDIAN</td>
<td>(2) 0.49%</td>
<td>(3) 0.73%</td>
</tr>
<tr>
<td>TOTAL (Poor and Excellent)</td>
<td>(69) 16.8%</td>
<td>(65) 15.8%</td>
<td>(134)</td>
</tr>
</tbody>
</table>

The percentages in Table 50 and Table 51 are based on a sample of 409 pupils. The data indicate that 73.9% of the pupils in the poor learner category were Malays and that of the 69 pupils in the poor learner category, 69.6% were Malay boys. In contrast, 46.2% of the pupils in the excellent category were Chinese and 23.8% were Chinese boys. The second largest group of pupils in the poor learner category was the Indian boys, comprising 17.4% or 12 pupils. The analyses revealed that within a sample of 409 Standard 6 pupils in four schools, 16.9% are poor learners. This percentage reflects the teachers' perception that about 20% of pupils in each Standard are poor learners (Findings from teacher interview in the preliminary study). A survey carried out by the Primary School Unit, Ministry of Education, Malaysia in 1992 found that within each class (Standard 1 through Standard 6) in the 35 primary schools surveyed, between 10 to 20% of the pupils were performing below the passing grade.
What could be concluded from these findings is that there has not been that much improvement in the percentage of poor learners in 1992 through 2000 and that the Malaysian primary school system is still sending out into the secondary schools, pupils who have not been sufficiently prepared for the next level of academic challenges. The main findings under this section indicate that in terms of frequency, most poor learners are Malay boys. The fact that more boys than girls in this sample are poor learners provides further support for the existing "girls outperforming boys" finding revealed in the literature review (MacDonald et al, 1999; Rowe, 1999). Further more, the correlation coefficients between gender and the four categories of pupil performance (poor, average good and excellent) although significant, was not very strong—where $r = .320$, $p<0.005$.

Evidence supporting boys' underachievement indicated that boys are more likely to be at risk of academic underachievement, especially in literacy because they tend to be less interested in the whole idea of schooling (Epstein et al, 1998; Hinshaw, 1992; Irvine, 1999; Rowe, 1999). In relation to that evidence, Hill and Rowe (1998) stated that boys have a higher tendency to exhibit behaviour problems, in particular inattentiveness and restlessness, in the classroom. With the practice of mostly teacher-centered instruction within the Malaysian schools, boys could lose out if their attention span is shorter than girls'. This could also be further compounded by the change in the primary school curriculum to include more verbal reasoning and written communication skills as can be seen in the Science and Bahasa Melayu Writing components of the ICPS.
Although most poor learners are Malays, ethnicity as a sole factor cannot be a reason for poor achievement. Nevertheless, the fact that the Malay pupils have been revealed to be more disadvantaged academically in these four urban primary schools entailed some attention. In addition to that, the Malays who form the majority of the sample in general, also represent the biggest percentage of pupils from low socioeconomic status families.

It was also found that most poor learners came from low socioeconomic status backgrounds. Where gender could be an individual factor influencing academic achievement, ethnicity on its own cannot possibly affect achievement. It is more plausible to conclude that the ethnicity factor could be associated with academic achievement only when taken together with other variables, including especially socioeconomic status.

6.2.2 Socioeconomic Factor

Table 52 highlights that most pupils in the poor learner categories came from families where the fathers were in the minimum wage employment level (68.1%) and the mothers were not working (66.7%). In contrast, most pupils in the excellent learner category were from families where the fathers were in middle- (38.5%) to high-income (30.8%) employment. Excellent learners' mothers, like the poor learners' mothers were mostly not working (44.6%).
Table 52

Parental Occupation and Educational Attainment: Poor and Excellent Groups

<table>
<thead>
<tr>
<th>FATHER'S OCCUPATION</th>
<th>POOR</th>
<th>EXCELLENT</th>
<th>MOTHER'S OCCUPATION</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECEASED/ABSENT</td>
<td>(4)</td>
<td>0</td>
<td>DECEASED/ABSENT</td>
<td>(2)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>5.8%</td>
<td></td>
<td></td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td>UNWAGED</td>
<td>(46)</td>
<td>66.7%</td>
<td>(29)</td>
<td></td>
<td>44.6%</td>
</tr>
<tr>
<td>MINIMUM WAGE</td>
<td>(47)</td>
<td>8.1%</td>
<td>(5)</td>
<td>(11)</td>
<td>15.9%</td>
</tr>
<tr>
<td></td>
<td>7.7%</td>
<td></td>
<td></td>
<td>15.9%</td>
<td>6.2%</td>
</tr>
<tr>
<td>LOW INCOME</td>
<td>(9)</td>
<td>13.1%</td>
<td>(15)</td>
<td>(4)</td>
<td>5.8%</td>
</tr>
<tr>
<td></td>
<td>23.1%</td>
<td></td>
<td></td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>MIDDLE INCOME</td>
<td>(7)</td>
<td>10.1%</td>
<td>(25)</td>
<td>(5)</td>
<td>7.2%</td>
</tr>
<tr>
<td></td>
<td>38.5%</td>
<td></td>
<td></td>
<td>15%</td>
<td>23.1%</td>
</tr>
<tr>
<td>HIGH INCOME</td>
<td>(2)</td>
<td>2.9%</td>
<td>(20)</td>
<td>(1)</td>
<td>1.4%</td>
</tr>
<tr>
<td></td>
<td>30.8%</td>
<td></td>
<td></td>
<td>6.2%</td>
<td></td>
</tr>
</tbody>
</table>

As already mentioned in the section on gender above, most of the boys who were categorized as poor learners in this current research came from families with low socioeconomic status backgrounds and a large portion of the low socioeconomic status percentage comprised of Malays (Table 52). In terms of frequency analysis, majority of poor learners have parents whose educational attainments were not higher than the SPM/MCE (equivalent to 'O'-level) level, and whose occupations were categorized as 'unskilled workers'.

Most mothers of poor learners were housewives with educational attainment not higher than the SPM/MCE level. In comparison, most excellent learners in the current research have mothers who did not work but whose educational attainments were much higher than that of the poor learners' stay-at-home mothers; ranging from diploma to graduate level qualifications. What can be
implied here is that, it is not important to just have mothers stay at home to mind the children. What could be more important is the quality of care and educational experience parents can give to their child. This observation has support in Tiederman and Faber's (1992) finding that between parents, the mother's involvement in the child's academic development had a greater influence on the child's achievement at school. Parental involvement or family culture, according to Sampson-Malone (1985) can be taken to be good predictors of academic achievement.

It could be concluded from these results that within this sample, poor academic performance comes together with low socioeconomic status of the family. This conclusion echoes those made by a body of other researchers (Bidwell and Vander May, 1999; Wang and Goldschmidt, 1999; Bankston and Caldas, 1998). Together all these researches provided evidence that families within the high index of social position (as measured by two or more items such as parental educational attainment, occupation, income and social status), are often more able to better prepare their children for school. This is because their high socioeconomic status allows them to provide a wide range of educational resources in the home that could promote and enhance their children's cognitive development before and while their children are in school.

However, Fantuzzo, Davis and Ginsburg (1995) commented that it could be difficult to promote parental involvement as a means of aiding and ensuring
children perform better at school because parental involvement is a complex construct that covers a wide variety of parental behaviour. Therefore it cannot be implied that children whose parents are unable to provide them with extra tuition classes, music lessons, computers and educational software have not got sufficient parental involvement and opportunity to learn and would therefore not perform well academically. Hart and Risley (1995) discussed positive and frequent parent-child interactions even without the aids of expensive extra classes and educational equipment could help develop high sense of academic achievement among children as opposed to limited and negative parent-child interactions.

What could be implied from this is that, although educational aids provided at home could help improve learning in children, parents who cannot afford to provide them to their children could still help their children improve academically by being more positive and encouraging. In other words, where it is less possible for families to change their socioeconomic status, it would be easier for them to change their indifferent attitude towards education to one that would inculcate positive learning habits among their children.

6.2.3 School Factor

As can be seen in Table 53, most poor learners (33.3%) in comparison to excellent learners (6.2%) did not have pre-school experience and that most
learners (53.6%) had 1 year of pre-school experience. Leong, et al, (1990) indicated that children who have had some preschool experience tended to perform better at school in comparison to children who had no preschool experience. This is because in preschool, children gained confidence as they have been exposed to academic culture through semi formal instruction and play.

Table 53

Poor and Excellent Pupils' General School Background Information

<table>
<thead>
<tr>
<th></th>
<th>POOR (n = 69)</th>
<th>EXCELLENT (n = 65)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRESCHOOL EXPERIENCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>(23) 33.3%</td>
<td>(4) 6.2%</td>
</tr>
<tr>
<td>1 Year</td>
<td>(37) 53.6%</td>
<td>(27) 41.5%</td>
</tr>
<tr>
<td>2 Years</td>
<td>(9) 13%</td>
<td>(23) 35.4%</td>
</tr>
<tr>
<td>3 OR MORE YEARS</td>
<td>(0)</td>
<td>(11) 16.9%</td>
</tr>
<tr>
<td><strong>NUMBER OF CO CURRICULAR ACTIVITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>(6) 8.7%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td>1</td>
<td>(9) 13%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td>2</td>
<td>(40) 58%</td>
<td>(33) 50.8%</td>
</tr>
<tr>
<td>3 OR MORE</td>
<td>(14) 20.3%</td>
<td>(28) 43%</td>
</tr>
<tr>
<td><strong>NUMBER OF CO CURRICULAR POSTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>(54) 78.3%</td>
<td>(25) 38.5%</td>
</tr>
<tr>
<td>1</td>
<td>(14) 20.3%</td>
<td>(38) 58.5%</td>
</tr>
<tr>
<td>2</td>
<td>(1) 1.4%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td><strong>NUMBER OF SCHOOL POSTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>(50) 72.5%</td>
<td>(30) 46.2%</td>
</tr>
<tr>
<td>1</td>
<td>(18) 26.1%</td>
<td>(32) 49.2%</td>
</tr>
<tr>
<td>2</td>
<td>(1) 1.4%</td>
<td>(3) 4.6%</td>
</tr>
</tbody>
</table>
In Malaysia, preschool is optional and not part of the education system. Therefore only parents who can afford it or who are aware of its benefits send their children to preschool. Since the preschool curriculum come in various forms depending on the type of introduction to learning each wants to promote, Standard 1 enrollment will inevitably consist of pupils presenting with different levels of academic ability. As different as each preschool programme is from each other, the basic focus of all preschools is to develop children's reading, writing and numeracy skills.

Therefore, while children who have had preschool exposure will enter formal education at Standard 1 already equipped with these basic skills, children who had not attended preschool will be at a disadvantage. Because children learn at different paces, it might take some children a short time to overcome this advantage but for some others, they may continue to be left behind throughout their school years. From the analysis in this research, most pupils who had not attended preschool comprised of poor learners. Correlation analysis indicated a significant relationship between number of years pupil spent at preschool and pre-school years, where \( r = 0.24, p<0.005 \).

In terms of the number of responsible posts pupils held at school, the pattern in frequency analysis indicated that most poor learners were not given the opportunity to hold responsible posts. School prefects, class captains, sports captain are usually chosen from the pool of excellent learners. Results from
correlation analysis further supported this observation. Relatively strong significant relationships were found between number of responsible posts held at school and academic achievement, and that the better their performance at school, the more likely are they to hold responsible posts at school. The analysis also indicated that while excellent learners frequently received awards from their school for their academic performance, most poor learners surpassed their excellent counterparts in the field of sports. Correlation analysis between a composite score on the number of awards pupils had received in the fields of academic, sports and extra curricular activities and academic achievement, indicate weak but positive significant relationships.

Table 54
Poor and Excellent Pupils' Perception of School Subjects' Difficulty Level

<table>
<thead>
<tr>
<th></th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAHASA MELAYU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EASY</td>
<td>37.7%</td>
<td>16.9%</td>
</tr>
<tr>
<td>A LITTLE DIFFICULT</td>
<td>26.2%</td>
<td>53.8%</td>
</tr>
<tr>
<td>DIFFICULT</td>
<td>18.8%</td>
<td>23.1%</td>
</tr>
<tr>
<td>VERY DIFFICULT</td>
<td>7.2%</td>
<td>6.2%</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EASY</td>
<td>14.5%</td>
<td>44.6%</td>
</tr>
<tr>
<td>A LITTLE DIFFICULT</td>
<td>42%</td>
<td>46.2%</td>
</tr>
<tr>
<td>DIFFICULT</td>
<td>29%</td>
<td>9.2%</td>
</tr>
<tr>
<td>VERY DIFFICULT</td>
<td>14.5%</td>
<td>0</td>
</tr>
<tr>
<td>SCIENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EASY</td>
<td>10.1%</td>
<td>13.8%</td>
</tr>
<tr>
<td>A LITTLE DIFFICULT</td>
<td>44.9%</td>
<td>50.8%</td>
</tr>
<tr>
<td>DIFFICULT</td>
<td>24.6%</td>
<td>26.2%</td>
</tr>
<tr>
<td>VERY DIFFICULT</td>
<td>20.3%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>
Poor learners rated Science and Mathematics as difficult but Bahasa Melayu as easy. In fact, more poor learners than excellent learners rated Bahasa Melayu as easy. This observation is interesting in the light of the analysis of pupils' performance in these subjects. Although poor learners rated Bahasa Melayu as easy, they did not perform well in the said subject and vice versa, excellent learners who rated Bahasa Melayu as difficult, performed well in the subject. This is probably a consequence of attitude. Poor learners who were mostly Malays may have the perception that because Bahasa Melayu is their first language it would therefore be an easy school subject. Therefore they would not put in enough effort to learn and improve in the subject. Excellent learners on the other hand may approach the learning of this subject more seriously than the poor learners because they found the subject difficult and would therefore put in more effort to improve in the subject especially when Bahasa Melayu is not their first language. This may well explain why within the data, the Bahasa Melayu speaking poor learners performed poorly in Bahasa Melayu while non-Bahasa Melayu speaking excellent learners performed well in the subject. Correlation analysis between pupils' rating of the four school subjects and their performance—Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science—revealed significant but positive and weak relationships. Generally, the results can be read to mean that the more difficult the pupils rate the subjects the better they were to perform in the assessments of these subjects.
Attitude towards school and learning could also be interpreted in the data on pupils' perception of the frequency teacher assigned homework. Frequency analysis indicated that within the poor learner group, boys showed greater tendency to say they were not given homework and girls showed greater tendency to say they were given homework everyday. Again attitude could be the reason why there was a differing perception among pupils in this area. Boys in the poor learner category indicated an indifferent attitude towards homework, which echoes what teachers in the preliminary study had commented. The teachers observed that boys, especially the poor learners, do not take homework seriously and would be among the more likely to come to school without completing their homework. This observation could also be related to the observation that parents of poor learners were more likely to not help their children with their homework and would not do or say anything to their children when they bring home poor grades from school. The correlation between pupils' perception of the frequency teacher assigned homework and academic achievement was found to be significant.

Table 55
Poor and Excellent Pupils' Perception of Good Pupil Practices

<table>
<thead>
<tr>
<th></th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAY ATTENTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT HELPFUL</td>
<td>(6) 8.7%</td>
<td>0</td>
</tr>
<tr>
<td>A LITTLE HELPFUL</td>
<td>(5) 7.2%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td>HELPFUL</td>
<td>(18) 26.1%</td>
<td>(7) 10.8%</td>
</tr>
<tr>
<td>VERY HELPFUL</td>
<td>(40) 58%</td>
<td>(56) 86.2%</td>
</tr>
<tr>
<td>ASK QUESTIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT HELPFUL</td>
<td>(11) 15.9%</td>
<td>0</td>
</tr>
<tr>
<td>A LITTLE HELPFUL</td>
<td>(12) 17.4%</td>
<td>(3) 4.6%</td>
</tr>
<tr>
<td>HELPFUL</td>
<td>(19) 27.5%</td>
<td>(18) 27.7%</td>
</tr>
<tr>
<td>VERY HELPFUL</td>
<td>(27) 39.1%</td>
<td>(44) 67.7%</td>
</tr>
<tr>
<td>DO HOMEWORK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT HELPFUL</td>
<td>(6) 8.7%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td>A LITTLE HELPFUL</td>
<td>HELPFUL</td>
<td>VERY HELPFUL</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>(8) 11.6%</td>
<td>(27) 39.1%</td>
<td>(28) 40.6%</td>
</tr>
<tr>
<td></td>
<td>(9) 13.8%</td>
<td>(31) 47.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TAKE EXTRA TUITION</th>
<th>NO ACCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(4) 5.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOT HELPFUL</th>
<th>A LITTLE HELPFUL</th>
<th>HELPFUL</th>
<th>VERY HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(15) 21.7%</td>
<td>(9) 13%</td>
<td>(21) 30.4%</td>
<td>(20) 29%</td>
</tr>
<tr>
<td>(7) 10.8%</td>
<td>(6) 9.2%</td>
<td>(21) 32.3%</td>
<td>(29) 44.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASK ADULTS FOR HELP</th>
<th>NOT HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(16) 23.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A LITTLE HELPFUL</th>
<th>HELPFUL</th>
<th>VERY HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(23) 33.3%</td>
<td>(17) 24.6%</td>
<td>(13) 18.8%</td>
</tr>
<tr>
<td>(28) 43%</td>
<td>(17) 26.2%</td>
<td>(14) 21.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISCUSS WITH FRIENDS</th>
<th>NOT HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(17) 24.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A LITTLE HELPFUL</th>
<th>HELPFUL</th>
<th>VERY HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(11) 15.9%</td>
<td>(15) 23.1%</td>
<td>(26) 37.7%</td>
</tr>
<tr>
<td>(15) 21.7%</td>
<td>(23) 35.4%</td>
<td>(26) 40%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SURF THE NET</th>
<th>NOT HELPFUL</th>
<th>A LITTLE HELPFUL</th>
<th>HELPFUL</th>
<th>VERY HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(21) 30.4%</td>
<td>(12) 18.5%</td>
<td>(14) 20.3%</td>
<td>(27) 41.5%</td>
<td>(8) 12.3%</td>
</tr>
<tr>
<td>(12) 17.4%</td>
<td>(18) 27.7%</td>
<td>(22) 31.9%</td>
<td>(27) 41.5%</td>
<td>(8) 12.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DO REVISIONS</th>
<th>NOT HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(9) 13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A LITTLE HELPFUL</th>
<th>HELPFUL</th>
<th>VERY HELPFUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9) 13%</td>
<td>(1) 1.5%</td>
<td>(23) 33.3%</td>
</tr>
<tr>
<td></td>
<td>(28) 40.6%</td>
<td>(52) 80%</td>
</tr>
</tbody>
</table>

Pupils' attitude towards school and learning was also the focus of the analysis of the relationship between a composite list of educational activities, class participation and academic achievement. In reference to Table 55 below, pupils' scores in the eight items revealed significant relationship with academic achievement. Poor learners in the data indicated indifference to the eight items, stating that all items, except 'paying attention to teacher in class' and 'taking extra tuition classes at home', would not help them improve their grades. Excellent pupils on the other were more of a tendency to show positive attitudes towards the items.
Table 56
Poor and excellent pupils' perception of their participation in class

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Poor</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCUSS WITH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEACHERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(10) 14.5%</td>
<td>(8) 12.3%</td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(22) 31.9%</td>
<td>(15) 23.1%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(22) 31.9%</td>
<td>(33) 50.8%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(15) 21.7%</td>
<td>(24) 17.9%</td>
</tr>
<tr>
<td>DISCUSS WITH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRIENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(13) 18.8%</td>
<td>(4) 6.2%</td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(21) 30.4%</td>
<td>(13) 20%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(17) 24.6%</td>
<td>(31) 47.7%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(18) 26.1%</td>
<td>(17) 26.2%</td>
</tr>
<tr>
<td>ANSWER TEACHER'S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUESTIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(10) 14.5%</td>
<td>(3) 4.6%</td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(21) 30.4%</td>
<td>(12) 18.5%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(24) 34.8%</td>
<td>(34) 52.3%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(14) 20.3%</td>
<td>(16) 24.6%</td>
</tr>
<tr>
<td>ASK TEACHER QUESTIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(16) 23.2%</td>
<td>(7) 10.8%</td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(22) 31.9%</td>
<td>(11) 16.9%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(16) 23.2%</td>
<td>(30) 46.2%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(15) 21.7%</td>
<td>(17) 26.2%</td>
</tr>
</tbody>
</table>

Significant relationship was also found between pupils' perception of the frequency they participated in class activities and their academic achievement. From the list of four indicators of pupils' class participation (Table 56), frequency analysis revealed that poor learners were passive in class. They would not initiate discussion or participate when other members of the class initiate the discussion.
Table 57
Poor and Excellent Pupils' Perception of Teacher Practices

<table>
<thead>
<tr>
<th>HOMEWORK NOT CHECKED</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(19) 27.5%</td>
<td>(13) 20%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(14) 20.3%</td>
<td>(23) 35.4%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(20) 29%</td>
<td>(19) 29.2%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(16) 23.2%</td>
<td>(10) 15.4%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISCIPLINE VERY STRICT</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(10) 14.5%</td>
<td></td>
<td>(3) 4.6%</td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(13) 18.8%</td>
<td>(12) 18.5%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(19) 27.5%</td>
<td>(20) 30.8%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(27) 39.1%</td>
<td>(30) 46.2%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABSENT FROM CLASS</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(3) 4.3%</td>
<td>(2) 3.1%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(24) 34.8%</td>
<td>(32) 49.2%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(37) 53.6%</td>
<td>(30) 46.2%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(5) 7.2%</td>
<td>(1) 1.5%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRESENT BUT DOES NOT TEACH</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(17) 24.6%</td>
<td>(21) 32.3%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(20) 29%</td>
<td>(26) 40%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(26) 37.7%</td>
<td>(18) 27.7%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(6) 8.7%</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEACHES PART OF THE PERIOD ONLY</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(16) 23.2%</td>
<td>(27) 41.5%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(24) 34.8%</td>
<td>(22) 33.8%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(22) 31.9%</td>
<td>(18) 24.6%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(7) 10.1%</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMES LATE TO CLASS</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(10) 14.5%</td>
<td>(2) 3.1%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(21) 30.4%</td>
<td>(34) 52.3%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(30) 43.5%</td>
<td>(25) 39.5%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(8) 66.7%</td>
<td>(4) 6.1%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GIVES PRAISE AND REWARDS</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(25) 36.2%</td>
<td>(28) 43.1%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(11) 15.9%</td>
<td>(13) 20%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(16) 23.2%</td>
<td>(13) 20%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(17) 24.6%</td>
<td>(11) 20.9%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMES TO CLASS ANGRY</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(31) 44.9%</td>
<td>(36) 55.4%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(12) 17.4%</td>
<td>(16) 24.6%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(14) 20.3%</td>
<td>(10) 15.4%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(12) 17.4%</td>
<td>(3) 4.6%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USES AUDIO-VISUAL AIDS</th>
<th>FREQUENCY</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>(11) 15.9%</td>
<td>(15) 23.1%</td>
<td></td>
</tr>
<tr>
<td>ONCE IN A WHILE</td>
<td>(18) 26.1%</td>
<td>(19) 29.2%</td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(29) 42%</td>
<td>(28) 43.1%</td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td>(11) 15.9%</td>
<td>(3) 4.6%</td>
<td></td>
</tr>
</tbody>
</table>

HOLDS CLASSES OUTSIDE THE
In terms of the relationship between pupils' perception on the learning environment in class and academic achievement, significant relationship was found. Poor learners indicated a relatively negative perception of their learning environment, stating that teachers were frequently not around, their work not checked and that they were frequently scolded but seldom praised. This observation could be interpreted from two perspectives. From one perspective it could be interpreted that the poor learners felt the way they do about classroom environment because the teachers did not create the appropriate learning environment for poor learners because they did not know how to handle poor learners. From another perspective it could also be interpreted that poor learners did not show interest in school and learning and therefore were indifferent to the classroom environment.

As can be seen in Table 58 below, poor learners excelled more in sports than they did in the academic studies and other co-curricular activities such as story telling, debates, and singing. Of the 69 poor learners, only 42% have had remedial intervention. Excellent learners on the other hand generally excel quite well in all three areas, and especially in the academic studies.
Table 58
Poor and Excellent Pupils' Performance by Awards and Remedial Intervention

<table>
<thead>
<tr>
<th>Awarded for Excellence in</th>
<th>Frequency</th>
<th>Poor</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies</td>
<td>NEVER</td>
<td>(49)</td>
<td>(24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>71%</td>
<td>36.9%</td>
</tr>
<tr>
<td></td>
<td>1-2 Times A Week</td>
<td>(12)</td>
<td>(24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17.4%</td>
<td>36.9%</td>
</tr>
<tr>
<td></td>
<td>More Than 2 Times A Week</td>
<td>(8)</td>
<td>(17)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.5%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Sports</td>
<td>NEVER</td>
<td>(29)</td>
<td>(29)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42%</td>
<td>44.6%</td>
</tr>
<tr>
<td></td>
<td>1-2 Times A Week</td>
<td>(27)</td>
<td>(22)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>39.1%</td>
<td>33.8%</td>
</tr>
<tr>
<td></td>
<td>More Than 2 Times A Week</td>
<td>(13)</td>
<td>(12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18.8%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Cocurricular</td>
<td>NEVER</td>
<td>(52)</td>
<td>(44)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75.4%</td>
<td>67.7%</td>
</tr>
<tr>
<td></td>
<td>1-2 Times A Week</td>
<td>(15)</td>
<td>(7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.7%</td>
<td>26.2%</td>
</tr>
<tr>
<td></td>
<td>More Than 2 Times A Week</td>
<td>(2)</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>29%</td>
<td>6%</td>
</tr>
<tr>
<td>Remedial</td>
<td>No</td>
<td>(40)</td>
<td>(65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>58%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>(29)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42%</td>
<td>0</td>
</tr>
</tbody>
</table>

What was observed from the school factors was the fact that the school plays a big role in enhancing the pupils learning environment. Be it in the form of teaching, teaching materials, commitment, or classroom set up, the place where the child learns should be conducive for learning so the child can feel comfortable and motivated.

On the part of the pupils, approaching learning as a positive experience is important because no matter how conducive the learning environment may be, when the child is not committed to learning, performance will not improve.
Correlation analysis on most of the variables under the school factors indicated significant relationships with academic achievement.

6.2.4 Home Factor

Table 59

Poor and excellent pupils' activities at home

<table>
<thead>
<tr>
<th>Activity</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXTRA TUITION CLASSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td>(33) 47.8%</td>
<td>(16) 24.6%</td>
</tr>
<tr>
<td>YES</td>
<td>(36) 52.2%</td>
<td>(49) 75.4%</td>
</tr>
<tr>
<td><strong>OTHER CLASSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EXTRA TUITION CLASSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td>(30) 43.5%</td>
<td>(20) 30.8%</td>
</tr>
<tr>
<td>YES</td>
<td>(31) 44.9%</td>
<td>(27) 41.5%</td>
</tr>
<tr>
<td><strong>OTHER CLASSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>USE COMPUTER FOR SCHOOLWORK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SELLDOM</td>
<td>(20) 29%</td>
<td>(16) 24.6%</td>
</tr>
<tr>
<td><strong>READ FOR LEISURE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(19) 13%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(34) 49.3%</td>
<td>(18) 27.7%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(18) 26.1%</td>
<td>(27) 41.5%</td>
</tr>
<tr>
<td>EVERYTIME</td>
<td>(8) 11.6%</td>
<td>(18) 27.7%</td>
</tr>
<tr>
<td><strong>READ FOR SCHOOL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(11) 15.9%</td>
<td>(2) 3.1%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(27) 39.1%</td>
<td>(34) 52.3%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(16) 23.2%</td>
<td>(19) 29.2%</td>
</tr>
<tr>
<td>EVERYTIME</td>
<td>(15) 21.7%</td>
<td>(10) 15.4%</td>
</tr>
<tr>
<td><strong>WATCH BAHASA MELAYU TV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(9) 13%</td>
<td>(20) 30.8%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(40) 58%</td>
<td>(39) 60%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(18) 26.1%</td>
<td>(6) 9.2%</td>
</tr>
<tr>
<td>EVERYTIME</td>
<td>(2) 2.9%</td>
<td>0</td>
</tr>
<tr>
<td><strong>WATCH ENGLISH LANGUAGE TV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(12) 17.4%</td>
<td>(3) 4.6%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(42) 57.5%</td>
<td>(31) 47.7%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(8) 23.5%</td>
<td>(26) 40%</td>
</tr>
<tr>
<td>EVERYTIME</td>
<td>(7) 58.3%</td>
<td>(5) 7.7%</td>
</tr>
<tr>
<td><strong>WATCH OTHER LANGUAGE TV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(52) 75.4%</td>
<td>(52) 80%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>(13) 18.8%</td>
<td>(10) 15.4%</td>
</tr>
<tr>
<td></td>
<td>OFTEN</td>
<td>(4) 5.8%</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>LISTEN TO BAHASA MELAYU RADIO</td>
<td>EVERYTIME</td>
<td>(28) 43.1%</td>
</tr>
<tr>
<td></td>
<td>OFTEN</td>
<td>(14) 20.3%</td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(7) 10.8%</td>
</tr>
<tr>
<td>LISTEN TO ENGLISH LANGUAGE RADIO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(10) 15.4%</td>
</tr>
<tr>
<td>LISTEN TO OTHER LANGUAGE RADIO</td>
<td>NEVER</td>
<td>(51) 73.9%</td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(10) 14.5%</td>
</tr>
<tr>
<td>WATCH BAHASA MELAYU VIDEOS</td>
<td>NEVER</td>
<td>(26) 37.6%</td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(12) 17.4%</td>
</tr>
<tr>
<td>WATCH ENGLISH LANGUAGE VIDEOS</td>
<td>NEVER</td>
<td>(17) 24.6%</td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(11) 15.9%</td>
</tr>
<tr>
<td>WATCH OTHER LANGUAGE VIDEOS</td>
<td>NEVER</td>
<td>(42) 60.8%</td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(5) 7.25</td>
</tr>
</tbody>
</table>

Most of the home factors analyzed in this current research theoretically overlapped with those factors discussed under socioeconomic status factors.

Based on the analysis, the poor learners in this research's sample, who were mostly pupils from families of low socioeconomic status, do not all have the
opportunity to attend extra tuition classes at home or other extra curricular activities such as music lessons.

Correlation analysis between extra tuition classes at home and academic achievement produced positive although small coefficients. Similarly, excellent pupils attended leisure classes such as dance, music and self-defense, whereas few poor learners did so. Correlation between the number of extra curricular classes pupils attended at home and academic achievement was also found to be significant but small.

The results indicated that pupils who pursued healthy activities that could enhance cognitive development tended to perform better at school than those without leisure pursuits at home. This also applies to pupils' reading habits. In terms of frequency, boys who are poor learners were the ones who read least of all. Correlation was observed to be strong and significant between reading habits at home and academic achievement. As observed by Hart and Risley (1995), parent-child talk and interaction from the time the child was an infant revealed positive effects on academic achievement when the child enters primary school.
Table 60
Parental Reward, Punishment for and Involvement in Poor and Excellent Pupils’ Performance

<table>
<thead>
<tr>
<th></th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOLD</td>
<td>NO</td>
<td>(34) 49.3%</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>(35) 50.7%</td>
</tr>
<tr>
<td>DISCUSS</td>
<td>NO</td>
<td>(25) 36.2%</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>(44) 63.8%</td>
</tr>
<tr>
<td>PRAISE</td>
<td>NO</td>
<td>(22) 31.9%</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>(47) 68.1%</td>
</tr>
<tr>
<td>GIFTS</td>
<td>NO</td>
<td>(26) 37.7%</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>(43) 62.3%</td>
</tr>
<tr>
<td>HELP WITH HOMEWORK</td>
<td>SELDOM</td>
<td>(6) 8.7%</td>
</tr>
<tr>
<td></td>
<td>ONCE IN A WHILE</td>
<td>(28) 40.6%</td>
</tr>
<tr>
<td></td>
<td>OFTEN</td>
<td>(22) 31.9%</td>
</tr>
<tr>
<td></td>
<td>EVERYTIME</td>
<td>(13) 18.8%</td>
</tr>
</tbody>
</table>

Apart from parental involvement through talk and interaction, many parents in Malaysia practise the reward and punishment system at home to encourage better pupils' performance at school. However, no significant correlation was found between parental rewards, punishment and academic achievement. Similarly, no correlation was found between frequency parents help with homework and academic achievement.

Malaysian parents’ common practice of the reward and punishment system could be taken to be another form of parental involvement. In that sense parents who offer rewards to their children for good performance and some form of punishment for poor performance are likely to motivate the children to put in more effort in their learning and that in turn could produce improvements in the
children's academic performance. But parents would have to be careful so as not to create a generation of children who would only put in effort for the sake of getting a reward or out of fear for the punishment. Frequency analysis of the types of reward and punishment parents practise revealed that physical punishment such as beating, although not so common, were mostly practised by Malay parents of boys categorized by this research to be poor learners.

Furthermore, it was discovered in the frequency analysis that many parents of poor learners do not do anything when their child obtained poor grades at school. This research has also identified that the poor learners mostly came from low socioeconomic backgrounds. Therefore it could be concluded that poor learners' parents, with their limited educational background, lack the awareness that parental enthusiasm and positive parenting style could have positive impact on their children's academic achievement. This supports findings from research such as Zellman and Waterman (1998), which indicated that positive parental involvement relationship with academic achievement would be more significant in the presence of parental enthusiasm and positive parenting style in comparison to passive involvement at school and helping with homework.

What can be concluded from this section is that the hypothesis that home factors have a significant relationship with academic achievement can be only be accepted relative to which home variables are taken to equate home factors. In this research home factors such as provision of extra tuition classes and opportunity for pupils to be involved in healthy extra curricular activities can help
them have a more positive outlook on life and hence make them want to do well in school so they can go on to do well in life. What could also be said here is that home factors are closely related to socioeconomic status. Children from better socioeconomic backgrounds are likely to have parents who are better educated.

Educated parents are likely to have better occupation and better income (Crane, 1996; Caldas and Bankston, 1997), making them able to provide the extra tuition, extra curricular classes, reading materials and other educational aids at home. However, this does not mean that pupils from low socioeconomic family background would have no or less opportunity to do well at school because their parents cannot provide them with these extras. Parental involvement and encouragement could help motivate children to do well in school or to strive to do better when they are carried out with some amount of commitment. It would not be enough to just provide the extra classes or the rewards and punishment without providing the emotional support and encouragement.
6.2.5 Language-use Factor

Table 61
Poor and Excellent Pupils' General Language-use Pattern

<table>
<thead>
<tr>
<th>NUMBER OF LANGUAGES SPOKEN</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(31) 44.9%</td>
<td>(14) 21.5%</td>
</tr>
<tr>
<td>2</td>
<td>(19) 27.5%</td>
<td>(17) 26.2%</td>
</tr>
<tr>
<td>3</td>
<td>(19) 27.5%</td>
<td>(32) 49.2%</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>(2) 3.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIRST LANGUAGE LEARNED</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAHASA MELAYU</td>
<td>(45) 65.2%</td>
<td>(25) 38.5%</td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(11) 15.9%</td>
<td>(31) 47.7%</td>
</tr>
<tr>
<td>CHINESE</td>
<td>(2) 2.9%</td>
<td>(6) 9.2%</td>
</tr>
<tr>
<td>TAMIL</td>
<td>(8) 11.6%</td>
<td>(2) 3.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHERE LEARNED OTHER LANGUAGE</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOME</td>
<td>(4) 5.8%</td>
<td>(11) 16.9%</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>(44) 63.8%</td>
<td>(37) 56.9%</td>
</tr>
<tr>
<td>HOME AND SCHOOL</td>
<td>(21) 30.4%</td>
<td>(17) 26.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAIN LANGUAGE SPOKEN AT HOME</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAHASA MELAYU MIXED</td>
<td>(13) 18.8%</td>
<td>(6) 9.2%</td>
</tr>
<tr>
<td>OTHER THAN BAHASA MELAYU</td>
<td>(5) 7.2%</td>
<td>(4) 6.2%</td>
</tr>
<tr>
<td>OTHER MIXED</td>
<td>(10) 14.5%</td>
<td>(31) 47.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PREFERRED LANGUAGE</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAHASA MELAYU</td>
<td>(47) 68.1%</td>
<td>(32) 49.2%</td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(13) 18.8%</td>
<td>(27) 41.5%</td>
</tr>
<tr>
<td>CHINESE</td>
<td>(2) 2.9%</td>
<td>(6) 9.2%</td>
</tr>
<tr>
<td>TAMIL</td>
<td>(6) 8.7%</td>
<td>0</td>
</tr>
<tr>
<td>OTHER</td>
<td>(1) 1.4%</td>
<td>0</td>
</tr>
</tbody>
</table>

302
Table 62
Poor and Excellent Pupils’ Language-use Pattern at School

<table>
<thead>
<tr>
<th></th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THINK IN OTHER LANGUAGE, ANSWER TEACHER ORALLY IN BAHASA MELAYU</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(21) 30.4%</td>
<td>(16) 24.6%</td>
</tr>
<tr>
<td>SELDOM</td>
<td>(33) 47.8%</td>
<td>(25) 38.5%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(6) 8.7%</td>
<td>(18) 27.7%</td>
</tr>
<tr>
<td>EVERY TIME</td>
<td>(9) 13%</td>
<td>(6) 9.2%</td>
</tr>
<tr>
<td><strong>THINK IN OTHER LANGUAGE, WRITE IN BAHASA MELAYU</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEVER</td>
<td>(19) 27.5%</td>
<td>15) 23.1%</td>
</tr>
<tr>
<td>SELDOM</td>
<td>(34) 49.3%</td>
<td>(18) 27.7%</td>
</tr>
<tr>
<td>OFTEN</td>
<td>(10) 14.5%</td>
<td>(31) 75.6%</td>
</tr>
<tr>
<td>EVERY TIME</td>
<td>(6) 8.7%</td>
<td>(1) 1.5%</td>
</tr>
<tr>
<td><strong>LANGUAGE-USED WITH TEACHER DURING LESSON</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAHASA MELAYU</td>
<td>(58) 84.1%</td>
<td>(32) 49.2%</td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(4) 5.8%</td>
<td>(21) 32.2%</td>
</tr>
<tr>
<td>CHINESE</td>
<td>(2) 2.9%</td>
<td>0</td>
</tr>
<tr>
<td>TAMIL</td>
<td>(1) 1.4%</td>
<td>0</td>
</tr>
<tr>
<td>MIXED</td>
<td>(4) 5.8%</td>
<td>(12) 18.5%</td>
</tr>
<tr>
<td><strong>LANGUAGE-USED WITH TEACHER OUTSIDE LESSON</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAHASA MELAYU</td>
<td>(47) 68.1%</td>
<td>(23) 35.4%</td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(6) 8.7%</td>
<td>(28) 43.1%</td>
</tr>
<tr>
<td>CHINESE</td>
<td>(6) 8.7%</td>
<td>(3) 4.6%</td>
</tr>
<tr>
<td>TAMIL</td>
<td>(8) 11.6%</td>
<td>(1) 1.5%</td>
</tr>
<tr>
<td>MIXED</td>
<td>(2) 2.9%</td>
<td>(10) 15.4%</td>
</tr>
<tr>
<td><strong>LANGUAGE-USED WITH FRIENDS DURING LESSON</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAHASA MELAYU</td>
<td>(53) 76.8%</td>
<td>(29) 44.6%</td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(5) 7.2%</td>
<td>(20) 30.8%</td>
</tr>
<tr>
<td>CHINESE</td>
<td>(1) 1.4%</td>
<td>0</td>
</tr>
<tr>
<td>TAMIL</td>
<td>(1) 1.4%</td>
<td>0</td>
</tr>
<tr>
<td>MIXED</td>
<td>(9) 13%</td>
<td>(16) 24.6%</td>
</tr>
<tr>
<td><strong>LANGUAGE-USED WITH FRIENDS OUTSIDE LESSON</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAHASA MELAYU</td>
<td>(45) 65.2%</td>
<td>(22) 33.8%</td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(8) 11.6%</td>
<td>(32) 49.2%</td>
</tr>
<tr>
<td>CHINESE</td>
<td>(3) 4.3%</td>
<td>0</td>
</tr>
<tr>
<td>TAMIL</td>
<td>(5) 7.2%</td>
<td>0</td>
</tr>
<tr>
<td>MIXED</td>
<td>(8) 11.6%</td>
<td>(11) 16.9%</td>
</tr>
</tbody>
</table>
Language-use patterns, covering both languages used at home and language used at school have been important aspects of schooling as indicated in various language based researches such as Romaine (1995) and Cummins (2000). Language based research findings revealed a complex range of evidence as to the role language plays in cognitive ability development. Most of the literature reviewed in this study dealt with a learning environment involving minority language-speakers undergoing bilingual education targeted at eventual assimilation into the total majority language school system (Abudarham, 2002; Thomas and Collier, 1997; Romaine, 1995; Baker, 1993; Cummins, 1984;). The situation in Malaysian primary schools does not exactly fit into these scenarios because the learners are generally not immigrants who speak foreign languages at home but a variety of ethnic languages, the school system is not bilingual but monolingual Bahasa Melayu with English language taught as a strong second language and the school language is not a majority language per se but the national language that is also the lingua franca of the school population. The analysis of variables in this section therefore had taken into account these characteristics in considering the influence of the pupils' language-use patterns on their academic achievement.

Most Malaysians consider themselves bilinguals, to some extent, due to the multilingual environments they live in. However, generally, within the pupil population in this study, the Malay pupils, especially the poor learners, considered themselves as able to speak only one language—Bahasa Melayu.
This is an interesting observation because by the end of Standard Six, these pupils would have had at least six years of English language lessons. Correlation analysis indicated significant relationships between number of languages spoken and academic achievement. It could be concluded from the finding that the more languages pupils say they could speak, the better their overall academic performance.

At school, most Malay poor learners indicated that they speak only Bahasa Melayu in all situations, whereas non-Malay poor learners might speak their own mother tongues with other speakers of the same mother tongue and Bahasa Melayu with pupils who do not speak the same mother tongue as them. In comparison, excellent learners preferred to speak in English outside of lessons whenever possible, even with their teachers.

Quite surprisingly, the analysis indicated Malay learners, (including poor learners) not pupils of other ethnic origins found understanding lesson through the medium of Bahasa Melayu relatively difficult. At the same time the poor learners were also the ones who rated Bahasa Melayu as a school subject as easy. This contradictory description of the attitude towards language and language-use, although confusing is an important issue. It could be interpreted to mean that the pupils treated Bahasa Melayu as a subject as not too difficult but when they have to understand complex arithmetic and scientific content
through subject specific registers in Bahasa Melayu, the task becomes more complex and difficult.

Gibbons and Lascar (1998) proposed that the academic register is a specialized use of the language that is unlikely to be used in the home environment. Bahasa Melayu as a school subject would be considered relatively easy for pupils, especially the Bahasa Melayu-speaking pupils because many aspects of the subject they would have encountered in their home interactions but the subject-specific registers used in Mathematics and Science lessons would not be reinforced in the language-use environment at home. This observation finds support in Cummins (1984) who proposed that everyday language is more context-embedded, thus making it easier to use and understand. Academic language on the other hand, is context-reduced delivered with expectation of high order thinking skills such as analysis, synthesis and evaluation on the part of the user. In light of these researches, the contradictory responses provided by the pupils in terms of their language-use pattern and preference, become more understandable.

Pupils' language-use patterns at home were observed to be quite similar to their language-use pattern at school. Poor learners tended to speak their own mother tongues with family members and Bahasa Melayu with friends of other ethnic origins. Excellent learners on the other hand, especially those from high socioeconomic family background, may speak English Language with friends and
family at home, with their mother tongues as a second language. The pattern indicated that Malays would still nurture and maintain their mother tongue while preferring the use of English, but most Indians and Chinese pupils of high socioeconomic background have lost use of their mother tongues and adopted English as main language of communication in addition to Bahasa Melayu.

Table 63

Poor and Excellent Pupils' Language-use Pattern at Home

<table>
<thead>
<tr>
<th>WITH FATHER</th>
<th>BAHASA MELAYU</th>
<th>ENGLISH LANGUAGE</th>
<th>CHINESE</th>
<th>TAMIL</th>
<th>MIXED</th>
<th>POOR</th>
<th>EXCELLENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITH FATHER</td>
<td>BAHASA MELAYU</td>
<td>(40) 58%</td>
<td>(10) 14.5%</td>
<td>(3) 4.3%</td>
<td>(12) 17.4%</td>
<td>(4) 5.8%</td>
<td>(23) 35.4%</td>
</tr>
<tr>
<td>WITH MOTHER</td>
<td>BAHASA MELAYU</td>
<td>(38) 55.1%</td>
<td>(8) 11.6%</td>
<td>(2) 2.9%</td>
<td>(10) 14.5%</td>
<td>(11) 15.9%</td>
<td>(22) 33.8%</td>
</tr>
<tr>
<td>WITH SIBLINGS</td>
<td>NO SIBLINGS</td>
<td>BAHASA MELAYU</td>
<td>(46) 66.7%</td>
<td>(4) 5.8%</td>
<td>(1) 1.4%</td>
<td>(9) 13.1%</td>
<td>(5) 7.2%</td>
</tr>
<tr>
<td>WITH GRANDPARENTS</td>
<td>NO GRANDPARENTS</td>
<td>BAHASA MELAYU</td>
<td>(39) 56.5%</td>
<td>(7) 10.1%</td>
<td>(3) 4.3%</td>
<td>(12) 17.4%</td>
<td>(3) 4.3%</td>
</tr>
<tr>
<td>WITH MAID</td>
<td>NO MAID</td>
<td>BAHASA MELAYU</td>
<td>(35) 50.7%</td>
<td>(7) 10.1%</td>
<td>(3) 4.3%</td>
<td>(5) 7.2%</td>
<td>(1) 1.5%</td>
</tr>
<tr>
<td>WITH GRANDPARENTS</td>
<td>NO GRANDPARENTS</td>
<td>BAHASA MELAYU</td>
<td>(39) 56.5%</td>
<td>(7) 10.1%</td>
<td>(3) 4.3%</td>
<td>(5) 7.2%</td>
<td>(1) 1.5%</td>
</tr>
<tr>
<td>WITH FRIENDS AT HOME</td>
<td>MIXED</td>
<td>(1) 1.4%</td>
<td>(5) 7.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------</td>
<td>----------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO FRIENDS AT HOME</td>
<td>(3) 4.3%</td>
<td>(6) 9.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAHASA MELAYU</td>
<td>(45) 65.2%</td>
<td>(30) 46.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGLISH LANGUAGE</td>
<td>(10) 14.5%</td>
<td>(22) 33.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHINESE</td>
<td>(2) 2.9%</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAMIL</td>
<td>(4) 5.8%</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIXED</td>
<td>(5) 7.2%</td>
<td>(7) 10.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.3 Parent Questionnaire

The parent questionnaire was designed to confirm the responses provided by the pupil questionnaire. Of the 409 parent questionnaires sent out through the 409 pupils, 265 responses were returned. No discrepancies were observed when the responses obtained from the 265 parent questionnaires were crosschecked with the responses obtained from the 265 parallel pupil questionnaires. Therefore, it was concluded that the remaining 144 pupil questionnaires, which did not have their parallel parent questionnaires for crosschecking, should not have any discrepancies in the responses provided.

Since the parent questionnaire was mainly used as a crosschecking instrument, all the information obtained from the parent questionnaires was the same as part of the information obtained from the pupil questionnaires. Therefore, the data from the parent questionnaire have been incorporated into and analyzed together with the pupil questionnaire data and do not require further discussion.
6.4 The Derived Checklist for the Identification of a Poor Learner

The derived checklist for the identification of a poor learner incorporated the results obtained from the evaluation of the existing school practices, analyses of both the pupils' examination scores and data from the questionnaires. The poor learner could therefore be described as pupils with the characteristics featured in Figure 2.

The checklist has drawn out the main characteristics of the poor learner given the specific information obtained from the questionnaires and examination performance. The methodology used in this study has tried to include as many as possible of the pertinent factors that has been shown in the literature review to have influence on academic achievement, covering gender, ethnicity, socioeconomic status, home, school, and language-use pattern.

This checklist should be a useful tool for identifying poor learners as it has taken the schools' existing identification procedure of looking at only the pupils' performance in school-based assessment a step further by including factors outside the school and within the child. Nevertheless, it does not claim to be a comprehensive checklist as the results obtained are limited by the scope of this study.
Figure 2: Derived Checklist for the Identification of Poor Learners

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Gender</td>
<td>i. Boy</td>
</tr>
<tr>
<td>B. Ethnicity</td>
<td>ii. Malay</td>
</tr>
<tr>
<td>C. Socioeconomic status factors</td>
<td>i. Low socioeconomic background</td>
</tr>
<tr>
<td></td>
<td>ii. Parent’s education – SRP or lower</td>
</tr>
<tr>
<td></td>
<td>iii. Parent’s income – minimum wage to low income</td>
</tr>
<tr>
<td>D. Exam performance</td>
<td>i. Poor performance across all subjects over last three years of primary school education.</td>
</tr>
<tr>
<td></td>
<td>ii. Performed best in Bahasa Melayu Comprehension followed by Bahasa Melayu Writing.</td>
</tr>
<tr>
<td></td>
<td>iii. Performed worst in Science followed by Mathematics.</td>
</tr>
<tr>
<td></td>
<td>iv. Showed minimal or no improvement even with remedial intervention (where provided)</td>
</tr>
<tr>
<td>E. Language use Factors</td>
<td>i. Speaks one language – the mother tongue.</td>
</tr>
<tr>
<td></td>
<td>ii. Preferred language – Bahasa Melayu or the mother tongue.</td>
</tr>
<tr>
<td></td>
<td>iii. Speaks the mother tongue with parents and siblings and Bahasa Melayu with speakers of other languages.</td>
</tr>
<tr>
<td></td>
<td>iv. Speaks mainly Bahasa Melayu with teachers and friends at school.</td>
</tr>
<tr>
<td>F. School factors</td>
<td>i. Has not had or had 1 year pre-school experience.</td>
</tr>
<tr>
<td></td>
<td>ii. Not active in school co-curricular activities</td>
</tr>
<tr>
<td></td>
<td>iii. Not given responsible posts at school</td>
</tr>
<tr>
<td></td>
<td>iv. Does not participate actively in classroom activities.</td>
</tr>
<tr>
<td></td>
<td>v. Does not know why they have to attend school or perceives school as something their parents want for them.</td>
</tr>
<tr>
<td></td>
<td>vi. Perceives teachers as not doing enough – homework often not checked, homework not assigned often, teacher does not use audiovisual aids in teaching.</td>
</tr>
<tr>
<td></td>
<td>vii. Has no aspiration for further studies – plan to stay home after completing Form Five.</td>
</tr>
<tr>
<td>G. Home factors</td>
<td>i. Does not attend extra tuition classes at home.</td>
</tr>
<tr>
<td></td>
<td>ii. Not involved in leisure activities at home – eg. Music lessons, computer class, karate class.</td>
</tr>
<tr>
<td></td>
<td>iii. Television viewing and radio listening habits: mainly watched and listened to Bahasa Melayu programmes</td>
</tr>
<tr>
<td></td>
<td>iv. Seldom or never read for leisure or academic purpose.</td>
</tr>
<tr>
<td></td>
<td>v. Seldom or never visits the school or public library;</td>
</tr>
</tbody>
</table>
To take the checklist yet another step further, this study has developed a simple and useful model, which makes use of a mathematical formula, for the identification of poor learners. This model is one that was derived from the logistic regression analysis of the factors from the questionnaires that have been identified as significant influences on academic achievement. The model, its rationale and the procedure through which it was derived will be presented in the next chapter.
CHAPTER SEVEN

LOGISTIC REGRESSION ANALYSIS: FINDINGS AND DISCUSSION

7.0 Introduction

The analyses of the pupils' examination results and data from the questionnaires have derived at a profile of the poor learner which provides characteristics covering factors beyond the school-based examination results including gender, ethnicity, socioeconomic status, home, school and language-use. However, the findings thus far has brought about the need to find a reliable, valid and simple mathematical formula, which can help to identify at-risk pupils using information that is known to be relevant to academic performance. The integral concern of this study is to develop a convenient and simple tool for the identification of failing and 'at risk' pupils. Therefore, it is important to determine not just the variables that characterize the poor learner, but to determine which combination of factors conjointly operates to configure and predict the academic performance. Regression analysis has been traditionally accepted as the preferred statistical procedure to analyze such data (Field, 2002). In regression analyses there are two procedures, simple regression that uses one independent variable against one dependent variable and multiple regression that uses multiple independent variables against one dependent variable. Since the data obtained in this study consist of a number of variables, the multiple regression analysis was employed.
7.1 Multiple Regression Analysis

In multiple regression analysis predictors (independent variables) chosen from the data set are fitted into a model in the form of a linear relationship and that model is used to predict values of the outcome or dependent variable (Argyrous, 2000). With any data set there are a number of lines that could be used to summarize the general trend of the linear relationship so a mathematical technique called the method of least squares is used to establish the line that best describes the data from the many possible lines generated.

When any line is fitted to a set of data, there will be small differences between the values predicted by the line, and the data that were actually observed. These differences are called residuals. The method of least squares works by squaring the values of these residuals and adding them up. By comparing the individual sum of squares of each line, the line that best describes the data can be selected; the smaller the squared differences the more representative of the data the line is. In other words, the smaller the residuals, the better the fit.

The equation of a straight line is defined as $Y = B_0 + B_1 X_j + \varepsilon_j$, in which $Y$ is the outcome variable to be predicted and $X_j$ is the $j$th subject’s score on the predictor variable. $B_0$ is the intercept of that line. There is a residual $\varepsilon_j$, which represents
the difference between the score predicted by the line for subject $j$ and the score that subject $j$ actually obtained.

A similar equation can be derived for situations in which there are several predictors. In such a situation, each predictor variable has its own coefficient, and the outcome variable is predicted from a combination of all the variables multiplied by their respective coefficients plus a residual term. The resulting equation then becomes (Figure 3):

Figure 3: The Multiple Regression Equation

$$Y = B_0 + B_1 X_1 + B_2 X_2 + \ldots + B_n X_n + \varepsilon_j$$ (Field, 2002)

Where $Y$ is the outcome variable, $B_1$ is the coefficient of the first predictor ($X_1$), $B_2$ is the coefficient of the second predictor ($X_2$), $B_n$ is the coefficient of the $n$th predictor ($X_n$), and $\varepsilon_j$ is the difference between the predicted and the observed value of $Y$ for the $j$th subject.

Since this study is interested in formulating an equation that could reliably predict whether a pupil is likely to be a poor learner or not a poor learner, given the set of data obtained, another variation of multiple regression analysis will be employed—logistic regression.
7.2 Logistic Regression Analysis

Logistic regression is in nature multiple regression but it uses an outcome variable that is a categorical dichotomy rather than one that is measured at the ordinal or continuous level and predictor variables that could be continuous or categorical (Field, 2002). Since the outcome variable in the logistic regression is a categorical dichotomy, the model that is derived is used to predict which of the two categories in the dichotomy (poor or not poor learner) a pupil is likely to belong to, based on the host of information about the pupil obtained through the questionnaires. In other words, the interaction patterns between these variables would be used to determine which variables among them would be able to predict the parameters within which a particular child is at-risk of becoming a poor learner. Once the variables had been identified as predictors, they could be used, together with the pupils' performance patterns in school-based assessment tests and the national Primary School Assessment Test to predict 'at risk' pupils. Being able to make such predictions would be useful complementary tool to the checklist derived at in Chapter Six, especially in making the initial decision on the appropriate course of action to prevent or lower the rate of school failure.

In its simplest form, where there is only one predictor variable $X_1$, the logistic regression equation from the probability of $Y$ is predicted is given by the following equation:
Figure 4: The Simple Logistic Regression Equation

\[ P(Y) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1 + \varepsilon_i)}} \]

(Source: Field, 2002)

In which \( P(Y) \) is the probability of \( Y \) occurring, \( e \) is the base of natural logarithms \( (e = 2.718) \), and the other coefficients form a linear combination much the same as in simple regression. When there are several predictors, the equation becomes:

Figure 5: The Logistic Regression Equation with Multiple Predictors

\[ P(Y) = \frac{1}{1 + e^{-Z}} \]

where \( Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + \varepsilon_i \)

(Source: Field, 2002)

The resulting value from the equation is a probability value that varies between 0 and 1 - a value close to zero means that \( Y \) is very unlikely to have occurred; a value close to 1 means that \( Y \) is very likely to have occurred.
In this study, the pupils' performance level categories were taken to be the outcome variable. First pupils' total score in all four subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics, and Science) for the Standard 6 assessment over the three years was calculated. Then, pupils who had been performing consistently at the poor level (1st quartile range) over all three years (1998, 1999 and 2000) were categorized as 'Poor' and the rest of the pupil sample was categorized as 'Not Poor'. The predictor variables were initially all the other variables derived from the questionnaires encompassing pupil's gender, ethnicity, socioeconomic status, home, school, and language-use factors. The outcome variable was then regressed against all available variables, resulting in the inclusion of some variables and the exclusion of others.

Figure 6 shows the summary of the model and Figure 7 lists the variables that the regression procedure identified as predictors of poor learners and their corresponding coefficients. These predictors are also the variables that are included in the logistic regression equation.

**Figure 6: Summary of the Model**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S. E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.851</td>
<td>.145</td>
<td>162.780</td>
<td>1</td>
<td>.000</td>
<td>6.364</td>
</tr>
</tbody>
</table>
### Figure 7: Derived Predictor Variables (p<0.005)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>23.843</td>
</tr>
<tr>
<td>Number of years in preschool</td>
<td>10.690</td>
</tr>
<tr>
<td>Father's occupation</td>
<td>26.457</td>
</tr>
<tr>
<td>Father's educational attainment</td>
<td>-25.509</td>
</tr>
<tr>
<td>Mother's occupation</td>
<td>7.605</td>
</tr>
<tr>
<td>Mother's educational attainment</td>
<td>-7.174</td>
</tr>
<tr>
<td>Number of school co-curricular activities involved in</td>
<td>2.421</td>
</tr>
<tr>
<td>Frequency listen to English radio programmes</td>
<td>0.693</td>
</tr>
<tr>
<td>Frequency watch English videos</td>
<td>2.057</td>
</tr>
<tr>
<td>Frequency read storybooks</td>
<td>6.543</td>
</tr>
<tr>
<td>Frequency read newspapers</td>
<td>6.627</td>
</tr>
<tr>
<td>Frequency read reference books</td>
<td>8.061</td>
</tr>
<tr>
<td>Frequency visit public library</td>
<td>-11.192</td>
</tr>
<tr>
<td>Importance of getting good grades</td>
<td>17.141</td>
</tr>
<tr>
<td>Number of years in remedial programmes</td>
<td>-0.574</td>
</tr>
<tr>
<td>Go to school because there's nothing to do at home</td>
<td>-6.400</td>
</tr>
<tr>
<td>Go to school to avoid helping parents at home</td>
<td>2.287</td>
</tr>
<tr>
<td>Go to school to get a good job later</td>
<td>4.002</td>
</tr>
<tr>
<td>Go to school to get good education</td>
<td>4.219</td>
</tr>
<tr>
<td>Frequency ask teacher questions</td>
<td>2.580</td>
</tr>
<tr>
<td>Frequency discuss lessons with friends</td>
<td>-0.620</td>
</tr>
<tr>
<td>Frequency teacher doesn't teach the whole period</td>
<td>-8.187</td>
</tr>
<tr>
<td>Frequency teacher is angry for no reason</td>
<td>-2.005</td>
</tr>
<tr>
<td>Language spoken with elder brother</td>
<td>0.423</td>
</tr>
<tr>
<td>Language spoken with elder sister</td>
<td>-3.812</td>
</tr>
</tbody>
</table>

#### 7.2.1 The Model for Predicting Poor Performance

What the regression analysis did was it fitted a predictive model to the survey data and then used that model to predict values of the dependent variable from the range of independent variables. In other words, to draw accurate conclusions
about the data, a model that best describes the data has to be generated. The resulting model is provided below.

The initial -2 log-likelihood (-2LL) was 321.789 and the -2 log-likelihood for the model above was 1.851. The lower value of the -2 log-likelihood, in comparison to the original -2LL value, indicates that the model is predicting the outcome variable more accurately than it did when only the constant was included. How much better the model predicts the outcome variable can be assessed using the model chi-square statistic.

With this the model chi-square statistic = 0.943, significant at the 0.05 level. The model above correctly classifies 66 pupils as poor learners but misclassifies 1 other pupil (i.e. it correctly classifies 98.5% of cases). For pupils who are not poor learners, the model correctly classifies 332 but misclassifies 6 others (i.e. it correctly classifies 98.2% of cases). Of the two options, 'poor learner' is chosen as the better category for Y than 'not poor learner' because the former generated a greater number of correct predictions (98.5% for 'Poor learner' as compared to 98.2% for 'Not poor learner'). The overall accuracy of classification is calculated as the average of these two values (98.3%). Therefore, when only the constant was included in the model, it correctly classified 83.5% of the pupils, with the inclusion of the variables as predictors, the percentage rose to 98.3%.
This model is simple and convenient to use. What needs to be done is administer a questionnaire containing all the items (the predictor variables) in the model. The pupil's responses are then fed into the model to obtain the value of $Z$. The values of $Z$ or $(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + \epsilon_i)$ generated from the regression analysis can be seen as Figure 6 below:

Figure 8: List of Generated Value of $Z$

\[-Z = -102.222 + 23.843 \text{Gender} + 10.690 \text{number of years in preschool} + 26.457 \text{Father's occupation} - 25.509 \text{father's education} + 7.605 \text{mother's occupation} - 7.174 \text{mother's education} + 2.421 \text{Number of Co curriculum} + 0.693 \text{frequency listen to English radio} + 2.057 \text{frequency watch English videos} + 6.543 \text{Frequency read storybooks} + 6.627 \text{Frequency read newspapers} + 8.061 \text{Frequency read reference books} - 11.192 \text{Frequency visit public library} + 17.141 \text{Importance of getting good grades} - 0.574 \text{Number of years in remedial} - 6.400 \text{Go to school because there's nothing to do at home} + 2.287 \text{Go to school to avoid helping parents at home} + 4.002 \text{Go to school to get good job later} + 4.219 \text{Go to school to get education} + 2.580 \text{Frequency ask teacher questions} - 0.620 \text{Frequency discuss lessons with friends} - 8.187 \text{Frequency teachers teach not the entire period} - 2.005 \text{Frequency teacher is angry for no reason} + 0.423 \text{Language use with elder brother} - 3.812 \text{Language use with elder sister} + \epsilon_i\]
The Z value is then fed into the logistic regression equation:

\[ P(Y) = \frac{1}{1 + e^{-Z}} \]

When the probability \( Y \) value obtained is close to zero, it is very unlikely that the child is 'at risk' of being a 'Poor' learner, and when the value of \( Y \) obtained is close to 1 it is very likely that the child is 'at risk' of being a 'Poor' learner. The following section will present two pupils' scores taken from the database of this current study to illustrate the use of the derived logistic regression model in predicting the 'at-risk' pupil.

7.2.2 Predicting the 'at-risk' Pupil Using the Derived Logistic Regression Model

Pupil 1:

\[ Z = -102.222 + (23.843 \times 1) + (10.690 \times 0) + (26.457 \times 1) - (25.509 \times 1) + (7.605 \times 1) - (7.174 \times 1) + (2.421 \times 0) + (0.693 \times 1) + (2.057 \times 1) + (6.543 \times 1) + (6.627 \times 1) + (8.061 \times 1) - (11.192 \times 0) + (17.141 \times 2) - (0.574 \times 1) - (6.400 \times 4) + (2.287 \times 4) + (4.002 \times 4) + (4.219 \times 4) + (2.580 \times 1) - (0.620 \times 1) - (8.187 \times 4) - (2.005 \times 4) + (0.423 \times 1) - (3.812 \times 1) + \varepsilon \]

Therefore \( Z = -159.368 \)
Pupil 2:

\[-Z = -102.222 + (23.843 \times 2) + (10.690 \times 2) + (26.457 \times 5) - (25.509 \times 6) + (7.605 \times 5) - (7.174 \times 6) + (2.421 \times 4) + (0.693 \times 2) + (2.057 \times 3) + (6.543 \times 3) + (6.627 \times 3) + (8.061 \times 3) - (11.192 \times 2) + (17.141 \times 4) - (0.574 \times 0) - (6.400 \times 1) + (2.287 \times 1) + (4.002 \times 4) + (4.219 \times 4) + (2.580 \times 4) - (0.620 \times 4) - (8.187 \times 2) - (2.005 \times 1) + (0.423 \times 5) - (3.812 \times 5) + \varepsilon_i\]

Therefore \(Z = -273.911\)

The value of \(Z\) is then substituted into the equation to obtain the value of \(Y\):

\[P(Y) = \frac{1}{1 + e^{-Z}}\]

Pupil 1

\[P(Y) = \frac{1}{1 + 2.718^{-159.4}}\]

= approximately 1

Pupil 2

\[P(Y) = \frac{1}{1 + 2.718^{-274}}\]

= approximately 0

The value obtained from this equation predicts that there is a very likely probability that Pupil 1 is a poor learner (the probability of \(Y\) - poor learner - occurring is very likely because the value obtained is closer to 1) and that there is
a very unlikely probability that Pupil 2 is a poor learner (the probability of Y- poor learner- occurring is very unlikely because the value obtained is closer to 0). Therefore, based on the actual scores obtained from the survey questionnaires, Pupil 1, and other pupils with similar characteristics, is more at-risk of being a poor learner than Pupil 2, or other pupils with similar characteristics.

Having established a checklist for the identification and description of the poor learner in Chapter Six and developed a model for the prediction of the probability of a child being a poor learner in this chapter, the next chapter will draw the conclusions to this study and discuss the implications of its findings to the academic performance scenario in Malaysia.
8.0 Introduction

The main purpose of this study was to investigate and identify factors within the multilingual learning environment in Malaysia, which may account for poor performance among children in national primary schools. Since the only index of academic achievement available to the schools is the pupils' performance in school-based examinations, the initial task undertaken in this study was to investigate the reliability of this measure. This was done by assessing the patterns within and between the school-based assessment results and the standardized national PSAT results. From there this study went on to draw out features, from factors within pupils' gender, ethnicity, socioeconomic status, home and school environments, and language-use patterns, which can be used to describe the characteristics of the poor learner. The factors identified were then used to devise a mathematical equation with which the probability that a pupil could be at risk of being a poor learner could be predicted.

A total of 409 Standard Six pupils for the academic year 2000 participated as the main sample for this study. Together with these pupils, specific information was also sought from their parents and their teachers. For the measure of
performance, the pupils' end-of-year school based assessment results in four core subjects (Bahasa Melayu Comprehension, Bahasa Melayu Writing, Mathematics and Science) for three consecutive academic years (1998, 1999, and 2000) as well as the 2000 PSAT were collected.

Three survey questionnaires were used to gather information from the pupils, teachers and parents. They were: the pupil questionnaire, the parent questionnaire and the teacher questionnaire.

The statistical procedures that were used in analyzing the data for this study included at the initial stage, descriptive statistics, which involved categorizing the pupil sample into subgroups (ethnicity, gender, performance level), checking the patterns of distribution and measures of central tendency, cross tabulations and correlation analyses. Further statistical analysis involved the logistic regression analysis. All analyses were carried using the Statistical Package for Social Sciences (SPSS) version 10.0.

8.1 Conclusions

The conclusions presented here, which were drawn from the results presented in Chapters Five, Six, and Seven will assess to what extent the analyses had been successful in addressing the research questions.
8.1.1 Research Question 1: What factors could be used to characterize a poor learner?

Due to lack of other measures, the first characteristic of the poor learner was established as consistent poor performance in school-based assessments over a period of three academic years. Analyses by frequencies and cross tabulations show that the majority of poor learners within this sample were Malay boys from families of low socioeconomic status, who mostly speak only Bahasa Melayu and attended lower performing schools. Correlation analyses generated significant differences in academic achievement between:

- gender;
- parental occupation and educational attainment;
- pre-school attendance;
- degree of involvement in school and classroom activities;
- attitude towards school and learning;
- perception of teacher behaviour;
- perception of good pupil behaviour;
- language-use pattern at home and at school;
- home activities such as reading habits, television and video viewing and radio listening habits, extra-curricular pursuits (such as music and computer classes);
- parental involvement.
From the list of features identified as characteristic of the poor learner, a checklist to characterize poor learners has been drawn. This can be seen as Figure 2 in Chapter Six. The checklist can thus be used as a pre-screening and identifying, more accurately, 'at-risk' pupils by considering factors beyond their performance level in school-based assessments.

8.1.2 Research Question 2a: Do the school-based assessment results correlate with the PSAT results?

Between the same subjects, the school-based assessment results had shown correlation with the PSAT results. This revealed that the two assessment tools produced similar measures of performance.

However, when the pupils' individual scores for these subjects in both the school-based assessments and the PSAT were analyzed between schools, inconsistencies surfaced. Pupils' improvement or decline in performance was observed to be not stable across the three years and across the four schools. It can be concluded here that there could be several underlying factors that brought about these inconsistencies. The inconsistencies could be due to:

- the non-standardized tests used to assess pupils' achievement — rendering them inconsistent in terms of their level of difficulty, the items covered and tested, and the clarity of the rubrics employed.
• the states of 'preparedness' of the pupils from one assessment to another.

The level of 'preparedness' could be related to:

- the difference in the teaching approaches used;
- the commitment of the teachers in helping pupils improve;
- and also the pupils' attitude and commitment.

It was also observed in the analysis of the pupils' performance that some of the pupils who scored poorly in the school-based assessments somehow managed to obtain C-grades in the PSAT. This rather large improvement could mean several things. Firstly, it may be possible that in terms of the two tests' levels of difficulty, the PSAT was a lot easier than the school-based assessment. If this is so then the school-based assessments measure of performance does not parallel the performance measured by the standardized PSAT. Without relevant information it is not possible for this study to address this issue further. Nevertheless, it is an issue that should be of concern to responsible authorities.

8.1.3 Research Question 2b: Does the academic performance of a child, who has been identified to be a poor learner, improve over time?

The analysis showed that the performance of poor learners identified in this study generally did not improve with age. Many remained in the poor learner category from Standard 4 through Standard 6. This could be due to:
• the inefficacy of the teaching approaches;
• the pupils’ attitude and commitment to learning;
• the limited mental ability of the pupils;
• the school’s incapability to assist this group of children’s educational needs;
• the unavailability of suitable tools to identify the specific difficulties these children are facing.

The information obtained from the pupil questionnaire also revealed that not all poor learners have had remedial intervention. Therefore, this study could not establish the efficacy of the current remedial programmes that are in place at the schools. However, among the poor learners who have had remedial intervention, the levels of improvement observed were either small or none at all. Nevertheless, some of the pupils who before remedial intervention had reading problems did show some improvement as indicated by their improvement in their Bahasa Melayu Comprehension and Bahasa Melayu Writing results. This study’s main concern is for the pupils whose difficulties with learning have not been addressed. These children may have difficulties that do not fit into the criteria set as pre-requisites for inclusion into the remedial programmes. Therefore, a more comprehensive diagnostic tool could be made available so specific educational needs could be identified and appropriate and timely intervention could be provided.
Identifying specific educational needs of the pupils does not necessarily mean the identified pupils could then be pulled out of their mainstream or regular classrooms to be educated separate from their peers who do not have any difficulties with learning. It is important that the pupils' specific educational needs are clearly identified so they can be included in mainstream classrooms where their full potential can be explored. Instead of designing tools to assess who among the pupils would be eligible for remedial programmes or streamed into high performing or low performing classes, schools need to use diagnostic assessments to decide on the best approach to meet those needs within the mainstream classroom. For a country like Malaysia where special schools are limited, remedial programmes are difficult to establish, expert identification of specific learning needs is almost non-existent, and social integration is paramount, inclusive education should be the step forward.

8.1.4 Research Question 3: To what degree do the gender, ethnicity, home, school, language-use, and socioeconomic status factors individually influence academic achievement?

As explained in Chapter Six, gender, ethnicity, socioeconomic status, number of languages spoken, pre-school attendance; degree of involvement in school and classroom activities, attitude and perception towards school practices, leisure and educational activities outside the school and parental involvement all correlate significantly at the 0.05 level, with academic achievement. Chapter Six
has also established that some of these significant correlations lend further support to existing evidence on academic achievement, while some others highlighted contradictory evidence.

Therefore, in addressing this research question it was observed that individually these factors significantly influence academic achievement. However the correlations analyses carried out in this did not explain causality. Instead, this study provides valid reference points for the early identification of poor learners so as to prevent and monitor 'at-risk' pupils.

8.1.5 Research Question 4: What research design can be used to identify the relationships that exist between the different variables that affect performance?

What the findings suggest is that the issue of poor performance is one that is very complex as it involves individual human attributes and pedagogical issues that vary from one population to another. Although this study does not claim to reflect the trend for the general population, it has made an effort to include a wider range of factors in its analysis. The findings of this study suggest that the degree of the influence the factors included have on academic achievement appears to support findings from many other populations across the world. Nevertheless, it does acknowledge that there are other factors, beyond the scope of this study, that influence performance.
Although the logistic regression analysis was found to be a reliable tool for predicting the probability of poor performance occurring, the validity of the prediction across different populations depends very much on the variables included in the analysis. The correlation and regression analyses indicated that outside-school factors, such as parental occupation and educational attainment, home activities, and language-use patterns, rather than within-school factors were identified as more significant influences on pupils' academic achievement. Many of the school factors showed small or no correlation with academic achievement and were therefore excluded by the regression model.

It was also discovered through the research process that other methods could be included in the research design to obtain a clearer picture of the school process and practices. One of these is classroom observation. Information on actual classroom events might be able to draw out more school factors that may influence academic achievement.

8.1.6 Research Question 5: What statistical model can be used to reliably identify/predict poor learners?

The logistic regression analysis has identified a list of variables within the gender, socioeconomic status, school, home and language-use factors that could predict the probability of a pupil belonging to the 'poor learner' group or the 'not poor
learner* group. Given the known values of $X$, the prediction can be made via the following equation:

$$P(Y) = \frac{1}{1 + e^{-z}}$$

Where $z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots + \beta_NX_N + \epsilon_i$

This regression model parallels the regression model proposed by Kutnick (2000). The Kutnick model stemmed from the profile which describes the successful student as one who attends sixth form, whose parents work in high managerial/professional positions, who lives with both parents, who attended a pre-school and is female.

**8.2 The Whole Study in Retrospect**

The main purpose of this study is to investigate and identify factors within the multilingual learning environment in Malaysia, which may account for poor performance among children in national schools. One of the procedures identified to address this issue was to look into the teaching-learning strategies in practice at the school. To do this, the preliminary study carried out face-to-face interviews with the headmaster/headmistress and a sample of teachers. Although the information gathered through these interviews was sufficient, a clearer picture of the teaching-learning strategies could have been obtained through classroom observations and analysis of video tapings of actual
classroom activities. Analysis of classroom observations would have provided
descriptions of actual classroom events and comparisons could be made
between poor performers' classroom behaviour with that of excellent performers,
plus descriptions of actual teacher behaviour. This had been identified as one of
the limitations of this study. It was not possible to video tape lessons in session
because the schools did not want the Standard 6 pupils' preparations for the
PSAT to be interrupted. And it was not viable to video tape them after they have
completed the PSAT because at this point there were no more 'proper' lessons
as they have completed the syllabus. What could have been done was to carry
out the classroom observations and video taping of lessons a year earlier, when
the pupils were in Standard 5 to carry out the survey the following year after they
have completed their PSAT. Coming in for the school visit at the end of the year
had also deprived this study of the opportunity to observe remedial classes in
session. Therefore the findings from this study had been based on teachers',
and pupils' perceptions of what is going on at school and what is stipulated in
literature obtained from the Ministry of Education.

Another issue that could have benefited a closer look is an analysis of the actual
assessment materials used by the schools. Comparisons between the
assessment materials used by the different schools could further explain the
variance in performance between schools and between pupils. Analysis of the
assessment materials would reveal whether the knowledge and skills assessed
in the tests match the teacher's teaching objectives and emphases, and whether
the tests are free of rubrics that unnecessarily confuse or inadvertently influence pupils' responses. The analysis would also reveal whether efforts had been made to accommodate the special needs of particular pupils. For example a child who has reading, comprehension, numeracy or other difficulties might not perform well on a test which had been design for the general population who do not have those difficulties.

It would have also been beneficial to this study to have included face-to-face interviews with random sampling of the poor achiever and excellent achiever groups to gather and compare more specific information on their school-related, home-related and language-use characteristics. This would have revealed more meaningful comparisons between pupils and provided a more informed profile of the poor learner. Although the three questionnaires had included items that sought information on these factors, they could be made more specific through interviews with the two groups of random sampling. The present findings had not identified individual poor learners, but had instead limited itself to a generic group of poor learners and therefore individual differences between the poor learners themselves had not been identified.

In depth interviews with random poor learners and excellent learners would also reveal a clearer picture of the influence of proficiency in the school language on academic achievement. The findings from this study revealed that many pupils whose home language is other than Bahasa Melayu present themselves as
excellent learners. They excelled in Bahasa Melayu and all subjects taught through the medium of Bahasa Melayu. On the other hand, the poor learner group consisted of mainly pupils whose home language is Bahasa Melayu. As stated in the Chapter One, although Bahasa Melayu being the national language is spoken widely nationwide, it is also spoken in many different dialects. The findings of this study revealed significant positive correlations between ability to speak more than one language and academic achievement, but no significant correlation was found between ability to speak Bahasa Melayu and academic achievement. The in-depth interviews would be able to reveal the form of Bahasa Melayu spoken by the Bahasa Melayu speaking poor learners and other language-use related issues. This information would better inform the correlation analysis between language-use and academic achievement.

Finally, the sample, consisting of Standard 6 pupils from four schools, plus their parents and teachers, although is a large number, represents only a small portion of the current Standard 6 population. The study had taken care to include both boys and girls from the three main ethnic groups and socio-economic backgrounds in Malaysia, yet it cannot be taken to represent the whole population in every aspect. As stated in the methodology section, the four schools comprised of two all-boys schools and two co-educational schools. Apart from the imbalanced number of boys, the overall population of the four schools also indicated a large number of Malay pupils as opposed to those from other ethnic groups. This study had included all Standard 6 pupils from the four
schools. As such, the finding that most poor learners in this sample were Malay boys from low socioeconomic backgrounds who rate themselves as able to speak only Bahasa Melayu may have been biased by the sample itself which consisted of many pupils who fit this description. Nevertheless, given the scope and limitations of this study, the findings are deemed valid and reliable but should be applied with caution to other samples.

8.3 Implications

The findings of this study support the findings of past studies presented in the literature pertaining to various factors identified as influencing academic performance. In terms of gender, for example, there are numerous studies such as Rowe (2000) and Dean (1998) that identified boys as more disadvantaged academically than girls. However, Kutnick (2000) suggested, through his regression model, that academic achievement could not be simply explained by gender of the child. Kutnick identified other variables such as parental involvement and educational attainment as being able to account for greater amounts of the gaps in achievement than gender.

Similarly, in this current study, father's occupation and educational attainment correlated more significantly \((r=0.332, 0.325\ \text{respectively, } p<0.05)\) with academic achievement than did gender \((r=0.242, p<0.05)\). Ethnicity was one variable that featured frequently in the descriptive analysis of this data. However, it did not
show any significant correlation with academic achievement. Furthermore, it was rejected by the logistic regression analysis.

The implication here is that when the findings are looked at together, it appears that outside-school factors such as socioeconomic status, language-use, pupils' own attitude towards learning, and parental involvement could account for greater amounts of the differences in pupils' performance than could within-school factors. In support of this contention, studies such as Cooper et al (1998), Broadfoot et al (1993) and Reynolds and Farell (1996), emphasized the need to focus on improving student effort and attitude before academic achievement can be improved. In addition to that, the importance of parental involvement to improve academic achievement was stressed in Leong et al (1990) and Merttens (1993). However, more information on school practices would be needed before concluding that within-school factors matter less in determining academic performance. This is because the analysis of the pupils' actual scores in school-based assessments has revealed certain inconsistencies in the pattern of performance. This implies that poor performance could also be a consequence of within-school factors such as the design, content and implementation of the current curriculum.

As stated in the Chapters 1 and 3, the Integrated Curriculum for Primary School, which was implemented in 1984, was a switch away from the traditional teacher-centred method of teaching to one that is more pupil-centered. The main focus
of the ICPS is to develop pupils' communicative and numeracy skills. Focus on communicative and numeracy skills demands of the pupil high levels of verbal reasoning and written communication abilities. Furthermore, the medium of instruction is in a language that is different from most of the pupils' home language.

It is the contention of this study that such high demands made without taking into consideration the ability levels of the pupils, and the ability of the teachers can have negative effects on the learning process. The quality of the teaching and learning provision which emphasizes heavily on literacy and related verbal reasoning and written communication skills may have strong influences on pupils' cognitive, affective, behavioural and experiential outcomes of schooling, regardless of the characteristics the pupils bring upon entry into school.

Not only is the right approach for the implementation of the curriculum important, Mavrommatis (1997), and McCallum et al (1993) stressed also on the importance of using appropriate testing tools in assessing performance. The suitability of the assessment tools requires comprehensive knowledge of the pupils' abilities and inabilities. The absence of appropriate diagnostic tools to determine the specific educational needs of individual pupils would render the academic performance assessment tools used by the schools useless for many pupils, especially for the ones with difficulties, as the tools cannot obtain a true depiction of their abilities.
It is therefore vital that teachers be properly trained to carry out the demands of the curriculum because if not carried out properly, teachers risk producing pupils who fail to acquire the basic literacy skill. Without this basic literacy skill, pupils risk failure in all other academic achievements including numeracy. Teachers in the sample constantly stressed that they do not have the training to handle poor learners; they do not have the time to slow down to help poor learners due to the demands of the curriculum; and they identified pupils' poor acquisition of reading skills as the main or only reason for their poor performance across all subjects. The setting up of remedial reading units in schools reflects an acknowledgment that lack of literacy skills is an important factor in understanding poor academic performance. However, where there can be a long wait for such provision to be established, the difficulties some pupils may face in their learning may get more and more complex and they might also be left too far behind in the curriculum, compared to their more able peers, to catch up.

The responses from the teachers interviewed in the preliminary study, although not explicit, require Malaysian educators to take another look at existing teaching training and re-training programmes. Instead of working towards providing special needs classes, schools in Malaysia could benefit more if teachers are trained to incorporate special education needs methods of teaching into the mainstream classrooms. The curriculum must be designed to match the learners' needs, rather than to match the learners to the curriculum.
The literature reviewed in this study also suggests that there has been, within the Malaysian primary school system, an emerging shift towards inclusive education (Zalizan, 2000; Faridah, 2000). Zalizan (2000) and Faridah (2000) suggest that, while preparing for complete integration, Malaysian schools should practice the next best alternative—collaborative teaching—whereby mainstream teachers will provide instructions to children with special needs within their mainstream classrooms and special needs teachers act as the in-class support teachers. It is also important to note that whether it is integrated, segregated, or collaborative teaching, the children need to be identified as facing difficulties and their specific difficulties too, have to be clearly diagnosed. Only then can the appropriate teaching strategies be decided upon and utilized.

Therefore, it is felt that the checklist of the poor learner drawn from the findings is still not comprehensive enough because in the absence of assessment tools that could identify and determine:

- the pupils' specific reading problems,
- the pupils' specific difficulties with learning,
- their psychological and cognitive abilities,
- the teachers' level of ability in delivering the demands of the NSPC.

The concept of poor learning has not been fully explained. Therefore this study proposes the following recommendations.
8.4 Recommendations

Based on the findings of this study, the following are a number of recommendations for practice as well as for further research:

(1) A more comprehensive assessment or diagnostic tool should be in place at the schools so the specific needs of the pupils could be identified early. Currently, such tools are not available and in this study it had to be assumed that the poor learners are normally developing children with no specific learning difficulties or linguistic deficits. This limits the characteristics of the poor learner to extrinsic variables within the gender, ethnicity, socioeconomic status, home, school, and language-use factors.

(2) Remedial reading should be provided early, as soon as the children are identified to be ‘at-risk’. Currently, children are not assessed for remedial reading provision until they have had three or so years of failure and difficulties coping with academic tasks. Furthermore, remedial reading programmes are not yet available at all schools, therefore many children may have to go through the entire six years of primary school education without any remedial help. As such, a possible and faster delivery of remediation might be through the incorporation of special needs teaching methods into the mainstream
classrooms where all children, including those with difficulties in learning can have equal opportunity to learn.

(3) Early identification and intervention of 'at-risk' pupils not only requires an appropriate diagnostic tool, but also qualified and dedicated teachers. Therefore, on going and specialized teachers' professional development as well as more stringent teacher recruitment process should be in place. It is also important that future teacher training and retraining programmes include components that support or reflect an inclusive learning environment.

(4) Professional development should be informed by sound empirical research from the fields of cognitive, behavioural and human communication science.

(5) Parents could be brought into the school and be given appropriate training so they can contribute directly towards their children's academic progress. Parents can be trained to become teaching assistants, making it more possible to include special needs children in the mainstream classrooms, as they can help lighten the load of teachers who have to handle a more diverse range of pupils' abilities.
The importance of good quality teaching and educational effectiveness should be the logical step ahead for the Malaysian school system because when talking about poor learning, above everywhere else, it is in the classroom that learning takes place. Although outside school factors such as the child's socioeconomic background, ethnicity, language preference, do show significant influence on academic achievement, these factors are more difficult to alleviate. It might be faster to improve school practices than to improve the socioeconomic status of families.

8.5 Recommendations for Further Research

The findings of this study have spearheaded the need for further research into the complex phenomenon of poor learning. In Malaysia, not enough information is available in this area. Past research, including this current study focused mainly on the extrinsic characteristics of poor learners. The absence of a clear and comprehensive definition of a poor learner has led this research to measure poor learning only in terms of performance in school-based assessments. As this research has discovered, performance in school-based assessments may not be the best depiction of academic achievement due to the tools being non-standardized.

The PSAT results, although standardized, could not provide a true picture of performance since performance is reported in aggregate categories. Therefore
there is a need to carry out research in which the end product would be assessment or diagnostic tools that could accurately diagnose and categorize the specific problems and needs of the poor learner.

A larger scale study covering schools in other states including the rural areas and secondary schools could be carried out to obtain the country’s overall performance pattern.

The sample in this study looked at children who have already had three years of primary school education. It is therefore recommended that this study be replicated for children in the first phase of the ICPS—Standard 1 to Standard 3. The findings from such a study would be especially useful in determining an appropriate method for the early identification of 'at-risk' pupils.

The researcher recommends that other types of statistical analysis as well as different sets of factors such as level of bilingualism, intelligence and proficiency in the language of instruction, be used to predict academic achievement, including reading competency. Classroom observation data would also be another recommended strand that could be added to the analysis so the teaching-learning events could be described and analyzed as they happened.

Finally, it is recommended that there should be continuity in the investigation in this area with anticipation of further changes to the Malaysian school system.
Already since January 2003, the teaching of Mathematics and Science at primary school level has reverted to using the English language as the medium of instruction. Furthermore, the responsible authorities are beginning to be more aware of the existence of various learning difficulties apart from dyslexia. Therefore, investigations into poor performance at school could continue with the awareness that in order to provide equal opportunity to education for all, there is an urgent need to reframe the learning environment in Malaysia and to explore the benefits of developing a curriculum that takes into consideration all levels of academic ability.
REFERENCES


356


<table>
<thead>
<tr>
<th>APPENDIX</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Senior Assistant Questionnaire</td>
</tr>
<tr>
<td>2</td>
<td>Interview Schedule for Teachers</td>
</tr>
<tr>
<td>3</td>
<td>Pilot Interview Schedule for Teachers</td>
</tr>
<tr>
<td>4</td>
<td>Information Package for Schools:</td>
</tr>
<tr>
<td></td>
<td>a. Invitation to Participate in a Research Project</td>
</tr>
<tr>
<td></td>
<td>b. Healthy Volunteer Information Sheet</td>
</tr>
<tr>
<td></td>
<td>c. Healthy Volunteer Consent Form</td>
</tr>
<tr>
<td>5</td>
<td>School Organizational Charts</td>
</tr>
<tr>
<td></td>
<td>a. School A</td>
</tr>
<tr>
<td></td>
<td>b. School B</td>
</tr>
<tr>
<td></td>
<td>c. School C</td>
</tr>
<tr>
<td></td>
<td>d. School D</td>
</tr>
<tr>
<td>6</td>
<td>Pilot Pupil Questionnaire</td>
</tr>
<tr>
<td>7</td>
<td>Pupil Questionnaire</td>
</tr>
<tr>
<td>8</td>
<td>Pilot Parent Questionnaire</td>
</tr>
<tr>
<td>9</td>
<td>Parents Questionnaire</td>
</tr>
<tr>
<td>10</td>
<td>Pilot Teacher Questionnaire</td>
</tr>
<tr>
<td>11</td>
<td>Teacher Questionnaire</td>
</tr>
<tr>
<td>13</td>
<td>Results of Kolmogorov-Smirnov Tests for Normality</td>
</tr>
<tr>
<td>14</td>
<td>Non-parametric Correlation Statistics</td>
</tr>
</tbody>
</table>

359
APPENDIX 1: Senior Assistant Questionnaire

CONFIDENTIAL

QUESTIONNAIRE FOR HEADMASTER/HEADMISTRESS
Please answer the following questions with your most current figures.

SECTION 1  PERSONAL DETAILS

1. Name: ...........................................................................................................
2. Present appointment: ..................................................................................
3. Name and address of school:
   ..............................................................................................................
   ..............................................................................................................
   ..............................................................................................................

SECTION 2  TEACHER POPULATION

4. Number of teachers teaching:
   Standard 2: .........................
   Standard 4: .........................
   Standard 6: .........................

5. Number of different races:

<table>
<thead>
<tr>
<th></th>
<th>Standard 2</th>
<th>Standard 4</th>
<th>Standard 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Number of trained teachers and untrained teachers:

<table>
<thead>
<tr>
<th></th>
<th>Standard 2</th>
<th>Standard 4</th>
<th>Standard 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trained teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untrained teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 3  
STUDENT POPULATION

7. Number of students in Standard 2: ...............  
   Standard 4: ...............  
   Standard 6: ...............  

8. Number of classes for Standard 2: ...............  
   Standard 4: ...............  
   Standard 6: ...............  

9. Number of students per class:

<table>
<thead>
<tr>
<th></th>
<th>Standard 2</th>
<th>Standard 4</th>
<th>Standard 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. Number of students of different races:

<table>
<thead>
<tr>
<th></th>
<th>Standard 2</th>
<th>Standard 4</th>
<th>Standard 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indians</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Student:Teacher Ratio: .........................  

12. Describe in brief the administrative hierarchy of the school:
13. Subjects assessed:

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Standard 2</th>
<th></th>
<th>Standard 4</th>
<th></th>
<th>Standard 6</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pass</td>
<td>Fail</td>
<td>Pass</td>
<td>Fail</td>
<td>Pass</td>
<td>Fail</td>
</tr>
<tr>
<td>Bahasa Malaysia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islamic Religious Studies/Moral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 2: Interview Schedule for Teachers

CONFIDENTIAL

INTERVIEW SCHEDULE FOR TEACHERS

NAME:
SCHOOL:
DATE/TIME OF INTERVIEW:
STANDARD:
TAPE NUMBER:

A. TEACHER'S BACKGROUND
1. How long have you been teaching? How long at this school? How long have you been teaching this standard?
2. Have you ever been sent for in service training? If yes, could you tell me about them? Do you find these courses useful? If yes, how and why? If no, why not?
3. How many languages do you speak? What are they?

B. STUDENT ASSESSMENT PROCEDURES
1. Could you tell me the assessment procedures for this standard?
   Probe questions:
   Who sets the exams? How are the exams vetted? What is the purpose of the assessments? How are the exam results analyzed? What actions would be taken on the analyzed results? How are parents informed of the results?
2. What do these school-based assessments expect of the pupils?
3. What happens when the pupils do not come up to the school's expectations?

C. ABOUT POOR LEARNERS

363
1. Are poor learners identified?
2. How are pupils identified as poor learners?
3. What is expected of the students? (Level of reading, spelling, arithmetic achievement for example).
4. What are factors that would lead you to suspect that these children cannot reach the expected level?
5. In a class how many of the pupils would you say are poor learners? How many above average learners?
6. Which subjects do the poor learners find most difficult to follow?
7. What provision is available for these students? If there is no specific provision, what do you do for them?
8. What more would you like to see being done for them?

D. ABOUT SCHOOL LANGUAGE USE
1. What language is more dominantly used in class:
   a. between teacher and pupils?
   b. between pupil and pupil?
2. What language is more dominantly used outside the class (e.g. in the staff room, in the corridors, in the canteen, in the playground):
   a. between teacher and pupil?
   b. between pupil and pupil?
3. Does having the medium of instruction in Bahasa Malaysia influence the academic achievement level of pupils whose home language is not Bahasa Malaysia? If yes, in what ways does it influence?

CLOSING
1. Is there anything else you would like to add or comment on concerning your pupils' learning and schooling?
APPENDIX 3: Pilot Interview Schedule for Teachers

INTERVIEW SCHEDULE FOR TEACHERS

SCHOOL:
STANDARD:
DATE:
NAME:
TAPE NUMBER:

A. TEACHER'S BACKGROUND
1. What subjects are you responsible for this year?
2. What other responsibilities do you have?
3. How long have you been teaching?
4. How long at this school?
5. Have you always taught this Standard?
6. Who decides on which standard you will be teaching each year?
7. What is your training? How were you recruited as a teacher?
8. Have you ever been sent for in-service courses? If yes, could you briefly tell me what they are?
9. Do you find these courses useful for your profession? If yes, how and why? If no, why not?
10. How is a teacher's performance at this school monitored and assessed?
11. What is your view on the way your performance is assessed/monitored?
12. How many languages do you speak? What are they?

B. ABOUT STUDENT ASSESSMENT PROCEDURES
13. How are the pupils assessed? How many assessments do you have in a year? What types of assessments do you have?
14. Who sets the exam questions?
15. Are the exams vetted? If yes, who vets them? If no, why not?
16. What are the exam results used for? Streaming purposes?
   Diagnostic purposes?
   Progress check?
   Remedial purposes?
17. How are the exam result acted upon?
18. In your opinion, generally speaking, how are the pupils in your standard doing academically?
19. How are parents informed of their child's progress in school?
20. Do you think the parents show enough interests in their children's schooling?
21. What would you like to see changed in the parents' attitudes/children's attitudes towards schooling?

C. ABOUT POOR LEARNERS
22. Do you think as a teacher you are able to identify pupils who are not coping well academically? If yes, how do you identify them? If no, why not?
23. If yes, approximately what percentage of the pupils in your standard are:
   good learners?
   average learners?
   poor learners?
24. Why do you think there is such differences in performance among the pupils?
25. Which subjects do the poor learners find most difficult? And why do you think they find these subjects especially difficult?
26. Has the school done anything to improve the poor learners' learning? If yes, what? If no, why not?
27. What are the results of your efforts to help improve the poor learners' learning?
28. What would you like to see being done for them?

D. ABOUT SCHOOL LANGUAGE USE
29. What language is more dominantly used in class? — between teacher and pupils?
   between pupils and pupils?
30. What about outside the classroom, what language is more dominantly used?
   --between teacher-pupil?
   between pupil-pupil?
31. In your experience as a teacher, do you think that having the medium of instruction in a language different than the learner's home language influences his learning outcome at all?
E. ABOUT THE STUDENT POPULATION (DEMOGRAPHIC INFORMATION)

32. How many classes do you have in your standard?
33. How many children are there in each class?
34. Approximately what are the percentages of each individual race?
35. What about the teachers, approximately what are the percentages of each individual race?
36. What is the teacher student-ratio of your standard?
37. Is there anything else you would like to add or comment on concerning your pupils' learning and schooling?
Dear Sir/Madam,

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

I am a MPhil/Ph.D. in Human Communication Science student studying at University College London. In fulfilment of the requirements for this degree I am required to carry out a research project which I am conducting in three national type primary schools in Kuala Lumpur. Permission to carry out this research has been granted by the authorizing body in the Ministry of Education, Malaysia.

The research you have been invited to participate in is a preliminary investigation into the influence of school instruction in a language other than the pupils' home language on their learning patterns. This research forms part of a larger study the aims of which are set out in the accompanying Healthy Volunteer Information Sheet. At present there is lack of information on the difficulties students may have in a situation where the language of learning is not their home language and it is unclear whether their needs have
been considered. The knowledge obtained from this study could provide a better understanding of the learning patterns of students in a multilingual setting like Malaysia. The findings could also be used to inform future teacher training programs nationwide.

In addition to interviewing the Headmaster/Headmistress I would also like to conduct similar interviews with teachers who are the respective coordinators of Standards 2, 4, and 6. I would appreciate it very much if you could extend this invitation to participate and the accompanying Healthy Volunteer Information Sheet to the teachers concerned. I would also like to request, at your discretion, for a quiet room within the school compound where I would be able to conduct the interviews uninterrupted.

Attached in advance is a questionnaire addressed to the Headmaster/Headmistress, which I will discuss with you on the day of my visit. In fulfilling the specifications of the aims of my study I also request access into the current academic records of students in Standards 2, 4, and 6 for analysis.

All information provided in the interview would be treated in full confidentiality. No volunteers' names or names of establishment they attend will be mentioned in the report. The analysis of the data will be carried out in London. The results will be written up in the form of a thesis and can be made available whenever necessary.

I am grateful for your time and co-operation in participating in this research project. Thank you.

Yours sincerely,

Jawakhir Mior Jaafar
HEALTHY VOLUNTEER INFORMATION SHEET

Title of study:
Learning in a multilingual environment: the influence of instruction in a language other than the learners' home language on their learning outcomes.

Investigators:
Dr. Merle Mahon (supervisor), Dr. Jannet Wright (supervisor) and Mrs. Jawakhir Mior Jaafar (student).

The research project:
This research project is in fulfillment of my MPhil/Ph.D. degree in Human Communication Science, which I am currently pursuing at University College London. The study in which you are invited to participate aims to investigate:

1) the 'culture' in three national type primary schools in Kuala Lumpur, Malaysia (i.e., teacher recruitment, student placement, assessment procedures, demographic background of the school population and the language use of the school population).
2) the patterns of learning of the good learners and poor learners in the three schools using the academic assessment procedures administered by the schools and in terms of language use and learning environment.
3) the learners' home 'culture' (in particular language use at home and factors affecting language choice).

The study will take the form of structured interviews carried out with headteachers and teachers responsible for the subjects' formal education. Each interview will last approximately 30 minutes and will require the interviewees to answer various questions that fulfill the specifications of the aims above. The interviews will be carried out in either Bahasa Malaysia or English, depending on the interviewee's language of preference, and tape recorded with the consent of the interviewee.

A questionnaire will be distributed to the participating head teachers prior to the school visit to obtain factual details about the school.

Results of the students' academic performance on school-based assessments will be obtained from the Headteachers. The figures will be analyzed to obtain the proportions of those students who are coping well with learning and those who are not coping as well with learning.
The results from the study will be written up as a dissertation in fulfillment of the requirements for the degree of MPhil/Ph.D. in Human Communication Science. All data will remain confidential and all participants will remain anonymous.

The data collected will provide educationalists in Malaysia with further information about the patterns of learning in schools in a multilingual setting. This information will also be useful in the international research arena and will build on current knowledge of educational practices worldwide.
HEALTHY VOLUNTEER CONSENT FORM

Title of study:
Learning in a multilingual environment: the influence of instruction in a language other than the learners' home language on their learning outcomes.

Investigators:
Dr. Merle Mahon, Dr. Jannet Wright and Mrs. Jawakhir Mior Jaafar
Department of Human Communication Science
University College London
Chandler House
2 Wakefield Street
London
WC1N 1PG

To be completed by the volunteer/s:
1. Have you read the information sheet about this study?..........................yes/no*

2. Have you had an opportunity to ask questions and discuss this study........yes/no*

3. Have you received satisfactory answers to your questions?......................yes/no*

4. Have you received enough information about this study?........................yes/no*

5. Do you understand that you are free to withdraw from this study?
   • at any time
   • without giving a reason for withdrawing........................................yes/no*

6. Do you agree to take part in this study?.............................................yes/no*

Signed......................................Date........................................

Name (in block letters)..............................................................

*Delete as necessary
APPENDIX 5: School Organizational Charts

SCHOOL A

- PTA
- HEAD
  - SENIOR ASSISTANT: ADMINISTRATION AND CURRICULUM
  - SENIOR ASSISTANT: CO-CURRICULUM
  - SENIOR ASSISTANT: STUDENT AFFAIRS
  - TEACHERS
    - PUPILS
    - SPECIAL ED. TEACHERS
  - HEAD: SPECIAL EDUCATION UNIT
  - PTA: SPECIAL EDUCATION
  - SPECIAL EDUCATION PUPILS

373
SCHOOL B

HEAD

PTA

SENIOR ASSISTANT: STUDENT AFFAIRS

SENIOR ASSISTANT: ADMINISTRATION & CURRICULUM

TEACHERS

PUPILS
This is not a test. I would just like to know about you, your family and your school. I hope you can help me by putting a cross (X) in the most suitable box to indicate what you think is the best answer to the following questions. Please use the pencil I have provided for you. I will go through every question with you. If there is anything you do not understand, at any point, please put up your hand.

1. Write down your full name ______________________________

2. Write down your age ____________________________ years old.

3. What Standard are you in now: Six: ________________

4. Mark which one is your school:
   □ S.K. Bukit Pantai   □ S.K. Brickfields (1)
   □ S. K. Brickfields (2)   □ S. K. Bukit Bandaraya

5. Are you a: □ BOY   □ GIRL

6. Are you a: Malay □   Chinese □   Indian □
   □ Other (please write it down) ______________________

7. Are you a: □ Malaysian
   □ Others (please write it down) ___________________

8. How many years were you in kindergarten?
   □ Did not attend kindergarten   □ One year
   □ Two years   □ Three years
9. Look at the list of people below. There are two things I would like you to do: First, put a cross next to the people who are living in the SAME HOUSE with you. Second, write down HOW MANY of them are living in the SAME HOUSE with you.

<table>
<thead>
<tr>
<th></th>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old brother</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Old sister</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Younger brother</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Younger sister</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Grandmother</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Grandfather</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Maid</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Other</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

10. Including yourself, how many children are there in your family?

□ 6 or more children
□ 2 - 3 children
□ Only you alone

11. Including yourself, how many of your brothers and sisters are still schooling?

□ More than 5 of you
□ 2 of you
□ 3 - 4 of you
□ Only you alone

12. What does your father work as? ___________________________

13. If your father does not go to work at all, is it because he:

□ Does not have a job?
□ Has retired
□ Or has your father passed away?

14. What does your mother work as? ___________________________

15. If your mother does not go to work at all, is it because she:

□ Does not have a job?
□ Has retired
□ Or has she passed away?
16. Look at the list of below. Are you holding any of these posts at your school?

- School Captain
- School Prefect
- Class Monitor
- House Captain
- Assistant School Captain
- Library Prefect
- Assistant Class Monitor
- Team Captain (Sports)

17. Are you involved in any school co-curricular activities?

- Yes
- No

If you crossed 'Yes', answer Question 18. If you crossed 'No', skip Question 18 and go straight to Question 19.

18. If you are involved in any school co-curricular activities, are you holding any of the following positions?

- President
- Treasurer
- Ordinary Member
- Vice President
- Secretary

19. Look at the list of classes below. Mark the classes you are now attending after school.

- Quran class/Mosque school
- Your own language class (Tamil, Mandarin and so on)
- Foreign language class (Tamil, Mandarin, French and so on)
- Music class (Piano, organ, violin and so on)
- Dance class (Ballet, Indian Classical and so on)
- Self-defense class (Karate, Taekwando, Silat and so on)
- Drama/Speech class
- Computer class
- Other classes (please write them down) __________________
20. Do you take tuition classes?  □ YES  □ NO

If YES, you do take tuition classes; mark the subjects you take tuition for:

☐ Bahasa Melayu  ☐ Bahasa Inggeris
☐ Matematik  ☐ Musik
☐ Pendidikan Seni  ☐ Pendidikan Jasmani
☐ Pendidikan Seni  ☐ Pendidikan Jasmani
☐ Umum  ☐ Kajian Tempatan
☐ Kemahiran Hidup  ☐ Sain

For Questions 21 to 24, please use the number scale below to say how often you do the following activities.

(1) Everyday  (2) Often  (3) Sometimes  (4) Almost Never

21. Look at the list of television programs below. Using the number scale above, circle how often you watch the following programs on television.

Malay drama/film   (1) (2) (3) (4)
Malay Cartoon   (1) (2) (3) (4)
News in Malay   (1) (2) (3) (4)
Children's' Programs in Malay   (1) (2) (3) (4)
English Documentaries   (1) (2) (3) (4)
English Drama/film   (1) (2) (3) (4)
English Cartoon   (1) (2) (3) (4)
News in English   (1) (2) (3) (4)
Children's' Programs in English   (1) (2) (3) (4)
English Documentaries   (1) (2) (3) (4)
Chinese drama/film   (1) (2) (3) (4)
Chinese musical/entertainment   (1) (2) (3) (4)
News in Chinese   (1) (2) (3) (4)
Tamil drama/film   (1) (2) (3) (4)
News in Tamil   (1) (2) (3) (4)
Hindi film   (1) (2) (3) (4)
Arabic programs   (1) (2) (3) (4)

Other programs (please write them down)__________________________
33. What do your parents usually do if you do not get good marks at school?

☐ They scold me. ☐ They hit me.
☐ They discuss with me. ☐ They do not do anything.
☐ They do not allow me to watch television or go out to play with my friends.

34. When you do get good marks at school, do your parents give you:

a. Praise ☐ Yes ☐ No
b. Gifts/Money ☐ Yes ☐ No

35. Have you ever received any prizes from school for excellence in:

a. Examinations ☐ Yes ☐ No
   If 'Yes' state how many times ___________________

b. Co-curricular (e.g. debates, sports, art).
   ☐ Yes ☐ No
   If 'Yes' state how many times ___________________

36. Are you now following the remedial program at your school?

☐ Yes ☐ No
If 'Yes', how have you been in the remedial program?

☐ 1 year. ☐ 2 years. ☐ 3 years.
☐ 4 years. ☐ 5 years. ☐ 6 years.

37. Look at the list of school subjects below. Use the number scale to say how difficult or easy each subject is to you. Circle the most suitable number against the subject.

(1) Very difficult. (2) Difficult. (3) Easy. (4) Very easy.

BAHASA MELAYU (1) (2) (3) (4)
BAHASA INGGERIS (1) (2) (3) (4)
MATEMATIK (1) (2) (3) (4)
38. Below are some reasons for going to school. Use the number scale below to say how important each of these reasons is to you. Circle the most suitable number for each reason.

(1) Very important (2) Important (3) Fairly important (4) Least important

I GO TO SCHOOL BECAUSE:

My parents want me to go to school. (1) (2) (3) (4)
There is nothing else to do. (1) (2) (3) (4)
I get to play with my friends. (1) (2) (3) (4)
It's better to go to school than help my parents at home. (1) (2) (3) (4)
I want to get a good job later. (1) (2) (3) (4)
I want to learn things. (1) (2) (3) (4)
I don't know why I have to go to school. (1) (2) (3) (4)

Other reasons for going to school (please write them down) ______

____________________________________________________

39. What languages can you speak? Please list them down:

____________________________________________________

40. Did you learn the languages you speak all at the same time?

[ ] YES    [ ] NO
23. Look at the list of radio networks below. Using the same number scale as above, circle how often you listen the following radio networks.

- Malay network
- English network
- Chinese network
- Tamil network
- Other networks (please write them down)

24. Look at the types of video tapes/Laser discs/Compact discs below. Using the same number scale as above, circle how often you watch these programs.

- Malay videos/LD/CD
- English videos/LD/CD
- Chinese videos/LD/CD
- Tamil videos/LD/CD
- Hindi videos/LD/CD
- Videos/LD/CD in other languages (Please state the language)

25. Look at the type of reading materials below. Using the same number scale as above, circle how often you read each of the items below.

- Story books
- Magazines
- Newspaper
- Comic books
- Reference books
- Examination guide books
- School textbooks
Other reading material (please state) ____________________________

(1) (2) (3) (4)

26. Are you a member of a public library/book rental?
   □ Yes □ No
   If ‘Yes’, how many times do you go to your public library/book rental?
   □ Once or twice a month □ Once a week.
   □ 2 – 3 times a week □ 4 – 5 times a week

27. How often do you go to your school library?
   □ Once a week □ 2 – 3 times a week
   □ 4 – 5 times a week □ Never

28. Do you have access to a computer/Internet services?
   □ Yes □ No
   If you crossed ‘Yes’, answer Question 28. If you crossed ‘No’ go straight to Question 29.

29. Do you use the computer/internet to help you with your schoolwork?
   □ Yes □ No

30. At home where do you do your homework? Please write down where:
________________________

31. How often does your mother or father help you with your homework?
   □ Once in a while. □ Every time.
   □ Sometimes. □ Never.

32. How important is it for you to get high marks in your examinations?
   □ Very important. □ Fairly important.
If NO, answer parts a, b and c. If YES, go to Question 40.

a. Which language did you learn first? ____________________________

b. When and where did you learn the other languages?

41. What language do you speak more? _____________________________

Why?

42. In what language do you read more? ____________________________

43. Use the following scale to answer the following questions:

(1) Always (2) Very Often (3) Often
(4) Sometimes (5) Never

a. Do you use more than one language in a sentence?

b. Do you feel you can explain things better when you use more than one language?

c. Do you answer in a certain language when you are asked in another language?

d. Do you think in another language and then answer your teacher in Bahasa Melayu?
e. Do you think in another language and then translate your ideas into Bahasa Melayu in order to write down your answers or write a composition? (1) (2) (3) (4) (5)

44. Look at the list of languages below, circle the corresponding number to indicate which language you use in each of the following situations. You may circle more than one number if you use more than one language in each situation.
(1) Malay (2) English (3) Chinese (4) Tamil or other Indian language (5) Other languages not listed here.

a. At school, what language do you speak with your:

Friends of the same race during recess: (1) (2) (3) (4) (5)
Friends of different races during recess: (1) (2) (3) (4) (5)
Friends of the same race during class time: (1) (2) (3) (4) (5)
Friends of different races during class time: (1) (2) (3) (4) (5)
Teacher of the same race during class time: (1) (2) (3) (4) (5)
Teacher of different race during class time: (1) (2) (3) (4) (5)
Teacher of the same race outside class time: (1) (2) (3) (4) (5)
Teacher of the different race outside class time: (1) (2) (3) (4) (5)

b. At home, what language do you speak with your:

Father (1) (2) (3) (4) (5)
Mother (1) (2) (3) (4) (5)
Elder brother (1) (2) (3) (4) (5)
Elder sister (1) (2) (3) (4) (5)
Younger brother (1) (2) (3) (4) (5)
Younger sister (1) (2) (3) (4) (5)
Maid/minder (1) (2) (3) (4) (5)
Grandmother (1) (2) (3) (4) (5)
Grandfather (1) (2) (3) (4) (5)
Friends of the same race (1) (2) (3) (4) (5)
Friends of different races (1) (2) (3) (4) (5)

45. How difficult is it for you to understand your teacher teach in Malay?

☐ Very difficult.  ☐ A little difficult.
☐ Difficult.  ☐ Not difficult at all.

46. Below are some of the activities you might do in class. Use the scale to say how often you do each of these things in class.
(1) Often (2) Sometimes (3) Once in a while (4) Never

Discuss with your teacher. (1) (2) (3) (4)
Discuss with your classmates. (1) (2) (3) (4)
Answer your teacher's questions. (1) (2) (3) (4)
Ask your teacher questions. (1) (2) (3) (4)
Participate in role-plays. (1) (2) (3) (4)

47. Below are some of the things your teachers might do in class. Use the scale to say how many of your teachers do each of these things in class.
(1) All of them. (2) Most of them. (3) Some of them.
(4) A few of them. (5) None of them.

Doesn't care about your work. (1) (2) (3) (4) (5)
Very strict on discipline. (1) (2) (3) (4) (5)
Often absent from class. (1) (2) (3) (4) (5)
Comes to class but does not teach. (1) (2) (3) (4) (5)
Does not teach for the whole period. (1) (2) (3) (4) (5)
Often comes to class late. (1) (2) (3) (4) (5)
Teaches in a boring way. (1) (2) (3) (4) (5)

Teaches in a way that is easy to understand.
Always praises or give rewards for good work.

(1) (2) (3) (4) (5)

Often gets angry for no reason.

(1) (2) (3) (4) (5)

Makes use of pictures, objects and music to teach.

(1) (2) (3) (4) (5)

Sometimes takes the class outside for a lesson.

(1) (2) (3) (4) (5)

Makes sure that the classroom is clean and comfortable at all times.

(1) (2) (3) (4) (5)

Makes sure pupils have understood before going to the next topic.

(1) (2) (3) (4) (5)

48. Use the scale to say how much the following things can help you do well in school.

(1) Very helpful (2) Helpful (3) Fairly helpful (4) Not helpful at all.

Paying attention to the teacher in class.

(1) (2) (3) (4)

Asking the teacher to explain if you don't understand.

(1) (2) (3) (4)

Completing homework with care.

(1) (2) (3) (4)

Taking tuition classes.

(1) (2) (3) (4)

Asking your parents to help with difficult homework.

(1) (2) (3) (4)

Referring to other books (other than school textbooks) for extra information and knowledge.

(1) (2) (3) (4)

Revise your lessons at home.

(1) (2) (3) (4)

Have discussions with your classmates after school.

(1) (2) (3) (4)
49. What do you plan to do when you finish your secondary school education?

☐ Look for a job.
☐ Continue on to higher education.
☐ Stop schooling to help parents at home
☐ Don't know.
☐ Other plans (please write it down) __________________________

50. What do you want to be when you grow up?

________________________________________________________________________

51. What do your parents hope you will be when you grow up?

________________________________________________________________________

This is the end of the questionnaire. Thank you for participating.
APPENDIX 7: Pupil Questionnaire

PUPIL QUESTIONNAIRE
This is not a test. I would just like to know about you, your family and your school. Please use the pencil provided to mark what you think is the best answer to the questions below. I will go through every question with. If there is anything you are not sure of, please put up your hand.

PART A: ABOUT YOURSELF

1. Write down your full name: __________________________

2. Write down your birthday: _____ day _____ month _____ year.

3. What Standard are you in? Four ____________
   Six: ____________

4. (Please tick one) Are you: a □ BOY or a GIRL? □

5. (Please tick one) Are you a:
   □ Malay □ Punjabi
   □ Chinese □ Indian
   □ Eurasian
   □ Other (please write it down) __________________________

6. What does your father work as? __________________________

7. What does your mother work as? __________________________
8. This question is about your family members. Please put your answer in the spaces provided.

   How many older brothers do you have? _______
   How many is living in the same house with you? ______

   How many older sisters do you have? _______
   How many is living in the same house with you? ______

   How many younger brothers do you have? _______
   How many is living in the same house with you? ______

   How many younger sisters do you have? _______
   How many is living in the same house with you? ______

   How many grandmothers do you have? _______
   How many is living in the same house with you? ______

   How many grandfathers do you have? _______
   How many is living in the same house with you? ______

   How many maids do you have? _______
   How many is living in the same house with you? ______

   Is your father living in the same house with you? _______

   Is your mother living in the same house with you? _______

   Other than the people listed above, is there anyone else living in the same house with you? _______

   If YES, please write it down who they are and how many there are:
   ______________________________________________________
   ______________________________________________________

9. Write down your co-curricular activities at school, if any:

   Clubs _________________________________________________
   Societies _____________________________________________
   Uniform bodies _________________________________________
   Sports ________________________________________________
10. If you are involved in any school co-curricular activities, tick the posts that you hold:

☐ Club/Society President ☐ Club/Society Vice President
☐ Club/Society Treasurer ☐ Club/Society Committee member

11. Are you holding any positions below? Please tick the appropriate boxes.

☐ School Captain ☐ Assistant School Captain
☐ Prefect ☐ Library Prefect
☐ Class Captain ☐ Assistant Class Captain
☐ House Captain ☐ Team Captain (Sports)

12. Do you go for tuition?
☐ YES ☐ NO

13. Look at the list of classes below. Mark the classes that you are now attending after school.

☐ Quran class
☐ Your own language class (Tamil, Mandarin and so on)
☐ Other language class (Tamil, Mandarin, French and so on)
☐ Music class (Piano, organ, violin and so on)
☐ Dance class (Ballet, Indian Classical and so on)
☐ Self-defense class (Karate, Taekwando, Silat and so on)
☐ Drama/Speech class
☐ Computer class
☐ Art class
☐ Other classes (please write them down)__________________
**PART B: ABOUT YOUR LEISURE ACTIVITIES**

For Questions 14 to 17, please use the number scale below to say how often you do the following activities.

(1) Everyday (E)    (2) Often (O)    (3) Sometimes (S)    (4) Never (N)

14. Look at the list of television programs below. Using the number scale, circle how often you watch each of the programs listed.

<table>
<thead>
<tr>
<th></th>
<th>Malay drama/movies</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Malay cartoon</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>News in Malay</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Malay musical/entertainment</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Children’s program in Malay</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Malay documentaries</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>English drama/movies</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>g</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>English cartoon</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>h</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>News in English</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Children’s program in English</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>j</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>English documentaries</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Chinese drama/movies</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>l</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>News in Chinese</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Chinese musical/entertainment</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tamil drama/movies</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>News in Tamil</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tamil musical/entertainment</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>q</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Hindi movies</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>r</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Arabic programs</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Other programs (please write them down)</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>(1) (2) (3) (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
15. Look at the list of radio networks below. Using the same scale provided in the previous page, circle how often you listen to each of the networks.

<table>
<thead>
<tr>
<th>Network</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay Network</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>English Network</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Chinese Network</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Tamil Network</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

16. Look at the types of video tapes/laser discs/compact discs below. Using the same scale provided in the previous page, circle how often you watch these programs.

<table>
<thead>
<tr>
<th>Type</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay videos/LD/CD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>English videos/LD/CD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Chinese videos/LD/CD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Tamil videos/LD/CD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Hindi videos/LD/CD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Videos/LD/CD in other languages (please write down the language)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

17. Look at the type of reading materials below. Using the same scale as in the previous page, circle how often you read each of the items listed.

<table>
<thead>
<tr>
<th>Material</th>
<th>(E)</th>
<th>(O)</th>
<th>(S)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story books</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Magazines</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Newspaper</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Comics</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Reference books</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Exam guidebooks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>School textbooks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Other reading material (please write down)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
18. How often do you read books from a book rental/public library?
   [ ] Never [ ] 1 - 2 times a week
   [ ] 3 - 4 times a week [ ] 5 - 6 times a week

19. How often do you read books from the school library?
   [ ] Never [ ] 1 - 2 times a week
   [ ] 3 - 4 times a week [ ] 5 - 6 times a week

**PART C: ABOUT YOUR LEARNING HABITS**

20. How often does your teacher give you work to do at home?
   [ ] Never [ ] 1 - 2 times a week
   [ ] 3 - 4 times a week [ ] 5 - 6 times a week

21. At home where do you usually do your schoolwork
   ________________________________
   ________________________________

22. How often do you use the computer to help you with your schoolwork?
   [ ] Never [ ] 1 - 2 times a week
   [ ] 3 - 4 times a week [ ] 5 - 6 times a week

23. How often do your parents help you with your schoolwork?
   [ ] Never [ ] Once in a while
   [ ] Often [ ] Every time

24. How important is getting high marks in examinations for you?
   [ ] Not important [ ] Fairly important
   [ ] Important [ ] Very important
25. What do your parents usually do if you do not get good marks in school?
☐ They scold me. ☐ They beat me.
☐ They discuss with me. ☐ They do not do anything.
☐ They do not let me to watch TV or go out to play with my friends.

26. When you do get high marks at school, do your parents give you:
   a. Praise ☐ YES ☐ NO
   b. Money ☐ YES ☐ NO
   c. Presents ☐ YES ☐ NO

27. Have you ever received any prizes from school for excellence in:
   a. Examinations ☐ NO ☐ YES (How many times) __
   b. Sports ☐ NO ☐ YES (How many times) __
   c. Co-curricular (Debates, drama, art, etc) ☐ NO ☐ YES (How many times) __

28. Have you ever been put in the remedial program?
☐ YES ☐ NO

29. Below is a list of reasons for going to school. Use the number scale below to say how important each of these reasons is to you. Circle the most appropriate number for each reason.
(1) Very important (VI) (2) Important (I) (3) Fairly important (FI) (4) Least important (LI)
I GO TO SCHOOL BECAUSE:
   a. My parents say I must go to school. (1) (2) (3) (4)
   b. There is nothing else to do during the day. (1) (2) (3) (4)
   c. If I stay at home I have to help my parents (1) (2) (3) (4)
   d. I want to get a good job. (1) (2) (3) (4)
   e. I want to learn. (1) (2) (3) (4)
   f. I want to play with my friends. (1) (2) (3) (4)
   g. I do not know why I go to school. (1) (2) (3) (4)
30. Look at the list of school subjects below. Use the scale to say how difficult or easy each subject is for you. Circle the most appropriate number against each subject.

(1) Very difficult (VD)  (2) Difficult (D)
(3) Fairly difficult (FD)  (4) Easy (E)

<table>
<thead>
<tr>
<th>Subject</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English language</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art and Craft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islamic/Moral Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31. Use the scale to say how much the following activities can help you obtain good marks at school.

(1) Very helpful (VH)  (2) Helpful (H)
(3) Fairly helpful (FH)  (3) Does not make a difference (ND)

<table>
<thead>
<tr>
<th>Activity</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay attention to the teacher.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask the teacher when unclear.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete homework with care.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition classes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask adults at home for help with schoolwork.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference books.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get reference/information from the Internet.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revise everyday.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discuss with friends.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
32. Below is a list of some of the activities you might do in class. Use the scale to say how often you do each activity.

   (1) Never (N)  (2) Once in a while (OW)  (3) Sometimes (S)  (4) Often (O)

   a. Discuss with your teacher. (1) (2) (3) (4)
   b. Discuss with your classmates. (1) (2) (3) (4)
   c. Answer your teacher’s questions. (1) (2) (3) (4)
   d. Ask your teacher questions. (1) (2) (3) (4)

33. Below are some of things that might happen in class. Use the scale to say how often each of these things is true about your class.

   (1) Never (N)  (2) Once in a while (OW)  (3) Sometimes (S)  (4) Often (O)

   a. Homework not checked. (1) (2) (3) (4)
   b. Strict discipline. (1) (2) (3) (4)
   c. Teacher is absent from class. (1) (2) (3) (4)
   d. Teacher comes to class but does not teach. (1) (2) (3) (4)
   e. Teacher does not teach for the whole period. (1) (2) (3) (4)
   f. Teacher comes late. (1) (2) (3) (4)
   g. Praises and rewards are given for good work. (1) (2) (3) (4)
   h. Teacher gets angry for no reason. (1) (2) (3) (4)
   i. Teacher uses pictures, objects and music to teach. (1) (2) (3) (4)
   j. Lessons are held outside. (1) (2) (3) (4)
   k. Classroom is clean and comfortable. (1) (2) (3) (4)
PART D: ABOUT YOUR LANGUAGE USE

34. a. Please write down all the languages you can speak:

b. Which language did you learn first?

c. When and where did you learn the second languages?

35. Of all the languages you speak, which is your favourite and why is it your favourite?

36. Do you think in another language and then answer your teacher in Bahasa Melayu?

☐ Never ☐ Sometimes
☐ Often ☐ Always

37. Do you think in another language and then translate your ideas into Bahasa Melayu in order to write down your answers or a composition?

☐ Never ☐ Sometimes
☐ Often ☐ Always
For Questions 38a and 38b to look at the list of languages below. Mark the language you use in each of the following situations. You may mark more than one if you use more than one language for a particular situation.

(1) Bahasa Melayu (B)  (2) English Language (E)
(3) Chinese (C)  (4) Tamil (T)
(5) Other language (O)

38a. At school, what language do you speak with your:

a. Friends of the same race during recess: (1) (2) (3) (4) (5)
b. Friends of different races during recess: (1) (2) (3) (4) (5)
c. Friends of the same race during class time: (1) (2) (3) (4) (5)
d. Friends of different races during class time: (1) (2) (3) (4) (5)
e. Teacher of the same race during class time: (1) (2) (3) (4) (5)
f. Teacher of different race during class time: (1) (2) (3) (4) (5)
g. Teacher of the same race outside class time: (1) (2) (3) (4) (5)
h. Teacher of the different race outside class time: (1) (2) (3) (4) (5)

38b. At home what language do you speak with your:

a. Father: (1) (2) (3) (4) (5)
b. Mother: (1) (2) (3) (4) (5)
c. Elder brother: (1) (2) (3) (4) (5)
d. Elder sister: (1) (2) (3) (4) (5)
e. Younger brother: (1) (2) (3) (4) (5)
f. Younger sister: (1) (2) (3) (4) (5)
g. Father's father: (1) (2) (3) (4) (5)
h. Father's mother: (1) (2) (3) (4) (5)
i. Mother's father: (1) (2) (3) (4) (5)
j. Mother's mother: (1) (2) (3) (4) (5)
k. Maid: (1) (2) (3) (4) (5)
l. Friends of the same race: (1) (2) (3) (4) (5)
m. Friends of different races at home: (1) (2) (3) (4) (5)
39. At school how difficult is it for you to understand your teacher talking in Bahasa Melayu?

- [ ] Very difficult
- [ ] Difficult
- [ ] Fairly difficult
- [ ] Not difficult

40. What do you plan to do after secondary school?

- [ ] Look for a job.
- [ ] Continue to higher education.
- [ ] Stop schooling to help parents at home.
- [ ] Don't know.
- [ ] Other plans (please write it down) __________________________

41. What do you want to be when you grow up?

__________________________

This is the end of the survey. Thank you for taking part.
APPENDIX 8: Pilot Parent Questionnaire

This survey forms part of a research on the learning patterns of primary schoolchildren. I would like to gather information concerning yourself, your spouse, and your child who is currently in Year Four or Year Six. Please respond to the following questions to the best of your knowledge by filling in the blanks or marking (/) in the most appropriate box.

Part A: This section (Questions 1 to 17) seeks your family background information.

1. Your child's name: ____________________________________________

2. Your child's school:
   - Sekolah Kebangsaan Bukit Pantai
   - Sekolah Kebangsaan Brickfields (1)
   - Sekolah Kebangsaan Brickfields (2)
   - Sekolah Kebangsaan Bukit Bandaraya

3. Your child's class: Year Four ____________
   Year Six ______________

4. Does your child have any known medical problem:
   □ YES □ NO If YES, please state problem:

5. Does your child have any physical disability:
   □ YES □ NO
   If YES please indicate:
   □ Blindness □ Deafness
   □ Mental retardation
   □ Other disabilities (please state): ________________________
6. How many years of kindergarten did your child attend?
   - [ ] Did not attend
   - [ ] 1 year
   - [ ] 2 years
   - [ ] 3 years
   - [ ] More than 3 years (please state number of years) ___________

7. Did you or your husband/wife read to your child when he/she was under 3 years old?
   - [ ] Never
   - [ ] Sometimes
   - [ ] Everyday
   - [ ] Once in a while
   - [ ] Often

8. Your age:
   - [ ] 20 - 30 years old
   - [ ] 30 - 40 years old
   - [ ] 40 - 50 years old
   - [ ] 51 years old and above

9. Your wife's/husband's age:
   - [ ] 20 - 30 years old
   - [ ] 30 - 40 years old
   - [ ] 40 - 50 years old
   - [ ] 51 years old and above

10. Are you:
    a. Unemployed
    - [ ] YES
    - [ ] NO
    b. Retired
    - [ ] YES
    - [ ] NO

    If YES for 10a or 10b, go to Question 11, If NO please state your occupation:

    _________________________________

11. Is your wife/husband:
    a. Unemployed
    - [ ] YES
    - [ ] NO
    b. Retired
    - [ ] YES
    - [ ] NO
    c. Passed away
    - [ ] YES
    - [ ] NO

    If Yes for 11a, 11b or 11c, go to Question 12, if NO, please state your wife/husband's occupation:

    _________________________________
12. What is your highest academic qualification?

- [ ] Completed primary school.
- [ ] SRP, LCE OR EQUIVALENT
- [ ] SPM, MCE OR EQUIVALENT
- [ ] STPM, HSC OR EQUIVALENT
- [ ] BA, B.Sc. (Local university)
- [ ] BA, B.Sc. (Foreign university)
- [ ] MA, MSc. (Local university)
- [ ] MA, MSc. (Foreign university)
- [ ] Ph.D. (Local university)
- [ ] Ph.D. (Foreign university)

Other qualification (please state, for example professional certification):

---------------------------------------------------------------------

---------------------------------------------------------------------

13. What is your wife/husband's highest academic qualification?

- [ ] Completed primary school
- [ ] SRP, LCE OR EQUIVALENT
- [ ] SPM, MCE OR EQUIVALENT
- [ ] STPM, HSC OR EQUIVALENT
- [ ] BA, B.Sc. (Local university)
- [ ] BA, B.Sc. (Foreign university)
- [ ] MA, MSc. (Local university)
- [ ] MA, MSc. (Foreign university)
- [ ] Ph.D. (Local university)
- [ ] Ph.D. (Foreign university)

Other qualification (please state, for example professional certification):

---------------------------------------------------------------------

---------------------------------------------------------------------
14. How many children do you have?
   - One
   - Two
   - Three
   - Four
   - Five
   - Six
   - More than six (please state) ____________________________

15. How many of your children are still schooling?
   - One
   - Two
   - Three
   - Four
   - Five
   - Six
   - More than six (please state) ____________________________

16. How many people are living in your house including yourself?
   - 2 - 3 people
   - 4 - 5 people
   - 6 - 7 people
   - 8 - 9 people
   - 10 or more people (please state) ____________

17. What is your joint monthly income?
   - More than RM 10,000
   - RM 5000-10000
   - RM 2000 – 5000
   - RM 1000 – 2000
   - RM 500 – 1000
   - RM 500 and less
**Part B:** This section (Questions 18 to 33) seeks information about your child’s schooling.

18. How many days was your child absent from school in 1999/2000?

- Never
- 1 - 3 days
- 4 - 6 days
- 7 - 9 days
- 10 days or more (please state number of days absent) ____________

If NEVER, go to Question 19, otherwise please state whether your child’s absence from school was due to:

- Poor health (please state sickness) ________________________________
- If not due to health problems, please state reason for absence ________________________________

19. Has your child ever received any awards from his/her school for excellence in:

a. Academic achievement

- YES
- NO
- DON’T KNOW

If YES, please state how many times ____________

b. Co-curricular or sports activities:

- YES
- NO
- DON’T KNOW

If YES, please state how many times: ____________

20. Has your child received awards from any other bodies for any achievements?

- YES
- NO
- DON’T KNOW

If YES, please name the award and awarding body:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
21. What do you usually do when your child is not able to obtain good marks in the examination? Please mark more than one where appropriate:

☐ I scold him/her.
☐ I beat him/her.
☐ I forbid him/her to watch TV/listen to the radio.
☐ I forbid him/her to go out and play with friends.
☐ I discuss the matter with him/her and provide advice.
☒ I do not do anything.

22. When your child obtains high marks in school examinations, do you reward him/her with:

Praises ☐ YES ☐ NO

Presents ☐ YES ☐ NO

Money ☐ YES ☐ NO

23. Where in the house does your child usually do his/her homework/studying?

Please state room/area in the house ____________________________

24. Is your child taking tuition classes? ☐ YES ☐ NO

25. Do you provide any of the following educational aids for your child?

Reference Books ☐ YES ☐ NO

Educational Games/Toys ☐ YES ☐ NO

Educational videos/cassettes ☐ YES ☐ NO

Computer ☐ YES ☐ NO

Internet Services ☐ YES ☐ NO

Other Educational aids (please state) ___________________________________
26. Using the scale provided, please state how frequent your child uses the following items at home: Never (1) (2) (3) (4) (5) Everyday

- Reference Books (1) (2) (3) (4) (5)
- Educational Games/Toys (1) (2) (3) (4) (5)
- Educational videos/cassettes (1) (2) (3) (4) (5)
- Computer (1) (2) (3) (4) (5)
- Internet Services (1) (2) (3) (4) (5)
- Other Educational aids (please state) ______________________________
  ______________________________________(1) (2) (3) (4) (5)

27. Using the scale provided, indicate how much control you and your husband/wife put on your child's: Tight control (1) (2) (3) (4) Total freedom

   a. Television viewing (1) (2) (3) (4)
   b. Video viewing (1) (2) (3) (4)
   c. Radio listening (1) (2) (3) (4)
   d. Computer usage (1) (2) (3) (4)

28. How often do you/your spouse help with or check your child's homework?

   □ Never □ Once in a while
   □ Sometimes □ Often
   □ Everyday

29. Do you discuss with your child about what he/she would like to do when he/she finishes school?

   □ YES □ NO

30. How often do you remind your child of the importance of a good education?

   □ Never □ Once in a while
   □ Sometimes □ Often
   □ Everyday
31a. Is your child currently in the school's remedial program?

☐ YES ☐ NO ☐ DON'T KNOW

If YES, please answer Questions 31b and 31c. If NO, go to Question 32.

31b. How long has your child been in the remedial program?

☐ Less than 1 year ☐ 1 year ☐ 2 years
☐ 3 years ☐ 4 years ☐ 5 years

31c. Why did the school feel that your child would benefit from the remedial program? Please mark more than one reason where appropriate.

☐ Because of your child's negative attitude towards learning.
☐ Because your child has been observed to cause disruptions during teaching.
☐ Because your child has difficulties learning to read.
☐ Because your child has difficulties learning to write.
☐ Because your child has difficulties learning to count.
☐ Because your child is consistently obtaining marks well below the average in examinations.
☐ You were not informed or given any reason by the school.

32. Please state your involvement in the Parent-Teacher Association of your child's school:

☐ Very active ☐ Fairly active
☐ Active ☐ Not active at all

33. Please state your wife/husband's involvement in the Parent-Teacher Association of your child's school:

☐ Very active ☐ Fairly active
☐ Active ☐ Not active at all
Part C: The following section (Questions 34 to 42) seeks information on your family's language use patterns.

34. Refer to the list to languages below. Circle the appropriate language(s) for each of the situations (a) to (e). You may circle more than one language if appropriate.

   (1) Bahasa Melayu  (3) Chinese
   (2) English Language  (4) Tamil
   (5) Other language (please state) ____________________

   a. What language(s) can you speak and understand?
      (1) (2) (3) (4) (5) ______________________________

   b. What language(s) can your wife/husband speak and understand?
      (1) (2) (3) (4) (5) ______________________________

   c. What is your heritage language?
      (1) (2) (3) (4) (5) ______________________________

   d. What is your wife's/husband's heritage language?
      (1) (2) (3) (4) (5) ______________________________

   e. What is the main language used at home?
      (1) (2) (3) (4) (5) ______________________________

   Answer Question 35 only if the main language used at home is not your/husband's/wife's heritage language.

35. If the main language used in your home is not your heritage language, please state reasons for choosing to adopt that language as your main language of communication at home:

   ________________________________________________
   ________________________________________________
   ________________________________________________
For Questions 36 to 38, use the scale below to indicate your and your family's ability in using Bahasa Melayu.

<table>
<thead>
<tr>
<th>Very proficient</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5) Not proficient at all</th>
</tr>
</thead>
</table>

36. Please state your ability to:

a. Speak Bahasa Melayu. (1) (2) (3) (4) (5)
b. Understand spoken Bahasa Melayu. (1) (2) (3) (4) (5)
c. Write in Bahasa Melayu. (1) (2) (3) (4) (5)
d. Read and understand Bahasa Melayu texts. (1) (2) (3) (4) (5)
e. Help your child with his/her schoolwork in Bahasa Melayu. (1) (2) (3) (4) (5)

37. Please state your wife's/husband's ability to:

a. Speak Bahasa Melayu. (1) (2) (3) (4) (5)
b. Understand spoken Bahasa Melayu. (1) (2) (3) (4) (5)
c. Write in Bahasa Melayu. (1) (2) (3) (4) (5)
d. Read and understand Bahasa Melayu texts. (1) (2) (3) (4) (5)
e. Help your child with his/her schoolwork in Bahasa Melayu. (1) (2) (3) (4) (5)

38. Please state your child's ability to:

a. Speak Bahasa Melayu (1) (2) (3) (4) (5)
b. Understand spoken Bahasa Melayu (1) (2) (3) (4) (5)
c. Write in Bahasa Melayu (1) (2) (3) (4) (5)
d. Read and understand Bahasa Melayu texts (1) (2) (3) (4) (5)
e. Do his/her schoolwork in Bahasa Melayu (1) (2) (3) (4) (5)
For Questions 39 and 40, please refer to the list of languages below. Indicate which language is used in the situations listed. You may mark more than one language if appropriate. Please read both questions before you begin marking.

(1) Bahasa Melayu
(2) English Language
(3) Chinese
(4) Tamil
(5) Other languages (please state)

39. Which language(s) does each of the individuals below use when talking with your child?
   a) Yourself (1) (2) (3) (4) (5)
   b) Your wife/husband (1) (2) (3) (4) (5)
   c) Your mother (1) (2) (3) (4) (5)
   d) Your father (1) (2) (3) (4) (5)
   e) Your wife's/husband's mother (1) (2) (3) (4) (5)
   f) Your wife's/husband's father (1) (2) (3) (4) (5)
   g) Your child's older brother (1) (2) (3) (4) (5)
   h) Your child's older sister (1) (2) (3) (4) (5)
   i) Your child's younger brother (1) (2) (3) (4) (5)
   j) Your child's younger sister (1) (2) (3) (4) (5)
   k) Your maid (1) (2) (3) (4) (5)
   l) Your child minder (1) (2) (3) (4) (5)
40. Which language(s) does your child use when talking with each of the individuals below:

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yourself</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Your wife/husband</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Your mother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Your father</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Your wife’s/husband’s mother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Your wife’s/husband’s father</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) His/her older brother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) His/her older sister</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) His/her younger brother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j) His/her younger sister</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k) Your maid</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l) His/her child minder</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

41. Do you agree with the use of Bahasa Melayu as the medium of instruction in schools?  
☐ Highly agree  ☐ Agree  ☐ Fairly agree  ☐ Disagree  ☐ Highly disagree

42. In an ideal situation, what changes or improvements would you like to see in your child’s learning and teaching environment?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

This is the end of the questionnaire. Thank you for your participation and cooperation.
APPENDIX 9: PARENT QUESTIONNAIRE

PARENTS' QUESTIONNAIRE

This survey forms part of my PhD. research on the learning patterns of primary schoolchildren. I wish to gather specific information concerning yourself, your spouse, and your child who is currently in Year Four or Year Six. I would be grateful if you and your spouse could spare about 15 minutes of your time to complete this questionaire together. All the information provided through this questionaire is confidential and will be used for research purposes only. If you have any difficulty with the questionaire or have any questions concerning this research, please do not hesitate to contact me (Jawahir) on 03-7574710 (evenings).

PART A: PERSONAL DETAILS

1. Your child's name and date of birth: ____________________________
   ____________________________

2. What Standard is your child in currently? Standard Four □
   Standard Six □

3. How many years of kindergarten did your child attend? _______years.

4. Is your child currently in the school's remedial program?
   YES □ NO □ DON'T KNOW □

If YES, please answer Questions 5 and 6 before answering Question 7. If NO, please go straight to Question 7.

5. How long has your child been in the remedial program? _____________years.
6. Please state the reason, to the best of your knowledge, why your child was put in the remedial program?


7. DOES YOUR CHILD HAVE ANY PARTICULAR MEDICAL PROBLEM?

   YES □   NO □

   If YES, please state problem:


8. Does your child have any known disability?

   YES □   NO □

   If YES please indicate:

   Blindness □
   Deafness □
   Mental retardation □
   Other disabilities (please state): _____________________
PART B: LANGUAGE USE

9. Please refer to the list of languages below. Circle the appropriate language for each of the situations (a) to (e). You may circle more than one language if it applies.

(1) Bahasa Melayu (BM)  (2) English (E)
(3) Chinese (C)  (4) Tamil (T)
(5) Other language (O). Please write down the language.

a. What language(s) can you speak and understand?

BM  E  C  T  O
(1)  (2)  (3)  (4)  (5)

b. What language(s) can your wife/husband speak and understand?

BM  E  C  T  O
(1)  (2)  (3)  (4)  (5)

c. What is your heritage language?

BM  E  C  T  O
(1)  (2)  (3)  (4)  (5)

d. What is your wife’s/husband’s heritage language?

BM  E  C  T  O
(1)  (2)  (3)  (4)  (5)

e. What is the main language(s) used at home?

BM  E  C  T  O
(1)  (2)  (3)  (4)  (5)

Answer Question 10 only if the main language spoken in your home is not your or your wife’s/husband’s heritage language.

10. If the main language you speak at home is not your/your wife’s/husband’s heritage language, please state your family’s reasons for choosing to adopt that language as your home language.

________________________________________________________________________

________________________________________________________________________
For Questions 11a, 11b and 11c, use the scale to indicate your/your family's ability in using Bahasa Melayu. Please circle the most appropriate response [(1) to (4)].

(1) Very proficient (VP)   (2) Proficient (P)   (3) Fairly proficient (FP)   (4) Not proficient (NP)

11a. Please indicate YOUR ability to:

<table>
<thead>
<tr>
<th></th>
<th>VP</th>
<th>P</th>
<th>FP</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Speak Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>ii. Understand spoken Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>iii. Write in Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>iv. Read and understand Bahasa Melayu texts.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>v. Help your child with his/her schoolwork in Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
</tbody>
</table>

11b. Please indicate YOUR WIFE'S/HUSBAND'S ability to:

<table>
<thead>
<tr>
<th></th>
<th>VP</th>
<th>P</th>
<th>FP</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Speak Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>ii. Understand spoken Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>iii. Write in Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>iv. Read and understand Bahasa Melayu texts.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>v. Help your child with his/her schoolwork in Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
</tbody>
</table>

11c. Please indicate YOUR CHILD'S ability to:

<table>
<thead>
<tr>
<th></th>
<th>VP</th>
<th>P</th>
<th>FP</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Speak Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>ii. Understand spoken Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>iii. Write in Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>iv. Read and understand Bahasa Melayu texts.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>v. Do his/her schoolwork in Bahasa Melayu.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
</tbody>
</table>
For Questions 12 and 13, please refer to the list of languages below. Please circle the number (indicating the language) against the people concern. You may mark more than one language where appropriate.

1. Bahasa Melayu (BM)  2. English (E)
2. Chinese (C)  4. Tamil (T)
3. Other language (O). Please write down the language.

12. Which language(s) does each of the individuals below use when talking with your child (Please circle the most appropriate language(s))?  

<table>
<thead>
<tr>
<th></th>
<th>BM</th>
<th>E</th>
<th>C</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yourself</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>b) Your wife/husband</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>c) Your mother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>d) Your father</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>e) Your wife's mother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>f) Your wife's father</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>g) Your child's elder sister</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>h) Your child's younger sister</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>i) Your child's elder brother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>j) Your child's younger brother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>k) Your maid</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>l) Your child's minder</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>
13. Which language(s) **does your child use** when talking with each of the individuals below? (Please circle the most appropriate language(s))?

<table>
<thead>
<tr>
<th></th>
<th>BM</th>
<th>E</th>
<th>C</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yourself</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>b) Your wife/husband</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>c) Your mother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>d) Your father</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>e) Your wife's mother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>f) Your wife's father</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>g) His/her elder sister</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>h) His/her younger sister</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>i) His/her elder brother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>j) His/her younger brother</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>k) Your maid</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>l) His/her minder</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

14. What is your opinion on the use of Bahasa Melayu as the medium of instruction in schools?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
PART C: YOUR CHILD'S ACTIVITIES AT HOME

15. IS YOUR CHILD TAKING TUITION CLASSES?
   YES □  NO □

16. Please list other after school activities your child is currently attending:
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

17. How often do you/your spouse help with or check your child’s homework?
   □ Never            □ Once in a while
   □ Sometimes        □ Often

18. Where in the house does your child usually do his/her homework/studying?
   __________________________________________________________
   __________________________________________________________

19. Does your child have any of the following educational aids at home?

   a. Story books       YES □  NO □
   b. Reference books   YES □  NO □
   c. Educational toys  YES □  NO □
   d. Educational videos/cassettes/CD YES □  NO □
   e. Computer          YES □  NO □
   f. Internet access   YES □  NO □
   g. Other educational aids (please state items)  ____________________________
   ____________________________
   ____________________________
20. Using the scale provided, please state how frequent your child uses the following items at home:

(1) Never (N) (2) Once in a while (OW) (3) Often (O) (4) Everyday (E)

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>OW</th>
<th>O</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Story books</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Reference books</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Educational toys</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Educational videos/cassettes/CD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Internet access</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Other educational aids (please state items)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Using the scale provided, please indicate how much control you and your spouse exercise over your child's involvement in the following activities.

(1) Tight control (TC) (2) Fairly tight control (FC) (3) Little control (LC) (4) No control (NC)

<table>
<thead>
<tr>
<th>Activity</th>
<th>TC</th>
<th>FC</th>
<th>LC</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Television viewing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Video viewing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Radio listening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Computer usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Internet surfing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PART D: MISCELLANEOUS INFORMATION

22. When your child obtains good grades in school examinations, do you reward him/her with:

- Praises: YES [ ] NO [ ]
- Presents: YES [ ] NO [ ]
- Money: YES [ ] NO [ ]

23. What do you usually do when your child is not able to obtain good marks in the examination? Please mark more than one where appropriate:

- [ ] I scold him/her.
- [ ] I beat him/her.
- [ ] I forbid him/her to watch TV/listen to the radio.
- [ ] I forbid him/her to go out and play with friends.
- [ ] I discuss the matter with him/her and provide advice.
- [ ] I do not do anything.

24. Do you encourage your child to pursue higher education?

YES [ ] NO [ ]

25. Did you or your spouse read to your child when he/she was under 3 years old?

- [ ] Never
- [ ] Once in a while
- [ ] Often

26. Please state your involvement in the school's Parent-Teacher Association

- [ ] Very active
- [ ] Fairly active
- [ ] Active
- [ ] Not active at all

27. Please state your wife/husband's involvement in the school's Parent-Teacher Association

- [ ] Very active
- [ ] Fairly active
- [ ] Active
- [ ] Not active at all
28. What is your ethnic origin? _____________________________________________

29. What is your wife's/husband's ethnic origin? _____________________________

30. PLEASE MARK YOUR AGE GROUP:

☐ 20 - 30 years old         ☐ 40 - 50 years old
☐ 30 - 40 years old         ☐ 51 years old and above

31. Please mark your wife's/husband's age group:

☐ 20 - 30 years old         ☐ 40 - 50 years old
☐ 30 - 40 years old         ☐ 51 years old and above

32. What is your highest academic qualification?

________________________________________

________________________________________

33. Please state your occupation ___________________________________________

34. What is your wife/husband's highest academic qualification?

________________________________________

________________________________________

35. Please state your wife's/husband's occupation: ___________________________

36. What is your joint monthly income? ____________________________

This is the end of the questionnaire. Thank you for your participation and cooperation.
APPENDIX 10: Pilot Teacher Questionnaire

TEACHER QUESTIONNAIRE

I am gathering information on factors that may influence the academic achievement of pupils in your school. The questions below are only concern with pupils currently in Year Four and Year Six. Please answer the questions to the best of your knowledge by marking a (I) in the appropriate boxes. Your cooperation is very much appreciated.

1. Name: ________________________________

2. School: ________________________________

3. State if
   ☐ Class teacher (which class) ________________
   ☐ Remedial teacher
   ☐ Other responsibilities (apart from teaching, please state: ____________________________

4. Sex:
   ☐ Male ☐ Female

5. Ethnic Origin:
   ☐ Malay ☐ Chinese
   ☐ Indian ☐ Others (Please state)

6. Age:
   ☐ 21 - 30 years ☐ 30 - 40 years
   ☐ 40 - 50 years ☐ 51 years and above

7. How many years have you been teaching?
   ☐ Less than 1 year
   ☐ 1 - 5 years ☐ 5 - 10 years
   ☐ 10 - 15 years ☐ 15 - 20 years
   ☐ 20 - 25 years 25 __ years
   ☐ More than 30 years (please state number of years): ____________________________
8. How many years have you been teaching at this school?

- [ ] Less than 1 year
- [x] 1 - 3 years
- [ ] 3 - 5 years
- [ ] 7 - 9 years
- [ ] 10 years or more (please number of years) ____________

9. What subjects/methods are you trained to teach:

- [ ] Bahasa Melayu
- [ ] English Language
- [ ] Mathematics
- [ ] Islamic Studies
- [ ] Moral Studies
- [ ] Art
- [ ] Physical Education
- [ ] Local Studies
- [ ] Music
- [ ] Living Skills
- [ ] Science

10. What subjects/methods are you currently teaching:

- [ ] Bahasa Melayu
- [ ] English Language
- [ ] Mathematics
- [ ] Islamic Studies
- [ ] Moral Studies
- [ ] Art
- [ ] Physical Education
- [ ] Local Studies
- [ ] Music
- [ ] Living Skills
- [ ] Science

11. Please list courses/in-service training you have attended since being a teacher:

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

12. What is your highest academic qualification:

- [ ] SRP, LCE or its equivalent
- [ ] SPM, MCE or its equivalent
- [ ] STPM, HSC or its equivalent
- [ ] BA, B.Sc. or its equivalent
- [ ] Other qualification (please state) __________________________________________________
13. How many hours do you teach a week?

☐ 23 - 25 hours a week  ☐ 20 - 22 hours a week
☐ 17 - 19 hours a week  ☐ 14 - 16 hours a week
☐ 11 - 13 hours a week  ☐ Less than 11 hours a week

14. Use the scale below to indicate the number of hours you spend each day doing the following activities.

(1) Less than an hour (2) One hour (3) Two hours (4) Three hours (5) More than three hours

a. Teaching preparations 1 2 3 4 5
b. Marking pupils' work 1 2 3 4 5
c. Other school related duties
Please state duties __________________________

1  2  3  4  5

15. Do you consider this workload heavy?

☐ Very heavy  ☐ Heavy
☐ Fairly heavy  ☐ Light
☐ Very light

16. How often do you help pupils with schoolwork outside of your normal teaching times?

☐ Never  ☐ Rarely
☐ Sometimes  ☐ Often

Answer Question 17 only if you are a Class Teacher.

17. How do you rate your pupils' academic ability in comparison to other pupils of the same Year?

☐ Much lower  ☐ Slightly lower
☐ About the same  ☐ Slightly higher
☐ Much higher
18. Do you feel that your school's remedial program has been successful in attaining its objectives?

- [ ] Very successful
- [ ] Successful
- [ ] Partially successful
- [ ] Not successful
- [ ] Don't know

Answer Question 19 and 20 only if you are a Remedial Teacher.

19. If you are a Remedial Teacher, please rate your remedial pupils' ability in comparison to other pupils of the same age.

- [ ] Much lower
- [ ] Slightly lower
- [ ] About the same
- [ ] Slightly higher
- [ ] Much higher

20. If you are a Remedial Teacher, do you feel that the remedial program at your school has been effective?

- [ ] Very effective
- [ ] Effective
- [ ] Fairly effective
- [ ] Not effective

21. Use the scale below to rate your pupils' attitude towards the subjects that you teach.

Not motivated at all (1) (2) (3) (4) Very motivated

<table>
<thead>
<tr>
<th>Subjects teaching</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22. How do you rate the parents' involvement in their children's learning in general?

- [ ] Not involved at all
- [ ] Involved
- [ ] Fairly involved
- [ ] Very involved
For Questions 23 and 24, use the scale below to rate how successful you feel your school has been in achieving the following objectives.

Not successful (1) (2) (3) (4) Very successful

23. How successful has your school been in inculcating these academic goals?

a) Help pupils attain good scores in the UPSR. (1) (2) (3) (4)
b) Develop pupils' thinking skills. (1) (2) (3) (4)
c) Develop pupils' creativity. (1) (2) (3) (4)
d) Help pupils develop a positive attitude towards learning. (1) (2) (3) (4)
e) Guide pupils make decision on their future vocation. (1) (2) (3) (4)
f) Help pupils develop a positive attitude towards their future plans. (1) (2) (3) (4)
g) Develop pupils' acquisition of life skills and knowledge. (1) (2) (3) (4)
h) Develop pupils' tolerance and appreciation of different cultures and art. (1) (2) (3) (4)
i) Develop pupils' understanding and appreciation of Malaysia's different cultures and art. (1) (2) (3) (4)
j) Develop high sense of moral values, truth and honesty in the pupils. (1) (2) (3) (4)
k) Teach pupils to make good use of their leisure. (1) (2) (3) (4)
l) Teach pupils to organize and plan their lives so they can better achieve their goals. (1) (2) (3) (4)
24. How successful has your school been in achieving the following administrative goals?

a) Ensuring that the school and classrooms are clean, comfortable and conducive for learning. (1) (2) (3) (4)

b) Ensuring a good working relationship between the teaching staff and administrative staff. (1) (2) (3) (4)

c) Encouraging active support and participation from parents. (1) (2) (3) (4)

d) Ensuring professional handling of sensitive and tricky situations concerning teachers, pupils and parents. (1) (2) (3) (4)

e) Ensuring that teachers are informed and consulted when changes in the administration are made. (1) (2) (3) (4)

f) Providing services to the neighborhood. (1) (2) (3) (4)

g) Providing opportunities for teachers to improve their profession. (1) (2) (3) (4)

h) Ensuring professional handling of parental complaints. (1) (2) (3) (4)

i) Ensuring that the administration of the school runs smoothly at all times. (1) (2) (3) (4)

j) Ensuring that all teacher and pupil activities run smoothly. (1) (2) (3) (4)

25. What are your language(s) of communication?

☐ Bahasa Melayu ☐ English language

☐ Tamil ☐ Chinese

☐ Other languages (please state) _____________________
26. Is Bahasa Melayu your first language?
   □ YES  □ NO

27. Is Bahasa Melayu your mother tongue?
   □ YES  □ NO

If NO, for either Questions 26 or 27, please answer items a to e, If YES, please go Question 28.

   a. How old were you when you first acquired Bahasa Melayu: ________________________________

   b. Where did you first acquired Bahasa Melayu: _________________________________________

   c. What is your first language: _______________________________________________________

   d. What is your mother tongue: _______________________________________________________

   e. What language do you speak at home: _______________________________________________

28. How do you rate your proficiency in Bahasa Melayu?
   □ Very proficient  □ Proficient
   □ Fairly proficient  □ Not proficient

29. Use the scale below to indicate your daily Bahasa Melayu usage at school.

   Always (1) (2) (3) (4) (5) Never

   a. Generally, how much is your teaching carried out in Bahasa Melayu:
      (1) (2) (3) (4) (5)

   b. Generally, how much Bahasa Melayu do you use with other school staff members:
      (1) (2) (3) (4) (5)

   c. Generally, how much Bahasa Melayu do you use with pupils outside of class time:
      (1) (2) (3) (4) (5)

   d. Generally, how much Bahasa Melayu do you use when discussing school matters with fellow staff members?
      (1) (2) (3) (4) (5)

   e. Generally, how much Bahasa Melayu do you use when discussing personal matters with fellow staff members?
      (1) (2) (3) (4) (5)
30. Use the scale below to indicate the degree of satisfaction you get from
your profession:

Very satisfied (1) (2) (3) (4) Not satisfied at all.

a. The state in which you are currently teaching. (1) (2) (3) (4)
b. The school in which you are currently teaching. (1) (2) (3) (4)
c. The Year you are currently teaching. (1) (2) (3) (4)
d. The subjects you are currently teaching. (1) (2) (3) (4)
e. The pupils you are currently teaching. (1) (2) (3) (4)
f. Your relationship with fellow teachers. (1) (2) (3) (4)
g. Your relationship with school administration staff. (1) (2) (3) (4)
h. School equipment. (1) (2) (3) (4)
i. School activities. (1) (2) (3) (4)
j. Availability of opportunities for self-improvement. (1) (2) (3) (4)

This is the end of the questionnaire. Thank you for your cooperation and
participation.
APPENDIX 11: Teacher Questionnaire

TEACHER QUESTIONNAIRE

This survey is part of a PhD research on factors that may influence the academic achievement of pupils in primary schools. Please answer the following questions to the best of your knowledge. All responses are confidential and will be used solely for research purposes. Your cooperation is very much appreciated.

1. Name: ________________________________________________

2. School: _______________________________________________

3. State if
   □ Class teacher (which class) __________________________
   □ Remedial teacher
   □ Other responsibilities (apart from teaching, please state):

4. How many years have you been teaching?
   □ Less than 1 year
   □ 1 - 5 years       □ 5 - 10 years
   □ 10 - 15 years    □ 15 - 20 years
   □ 20 - 25 years    □ 25 - 30 years
   □ More than 30 years (please state number of years):

5. What subjects/methods are you trained to teach:
   □ Bahasa Melayu    □ English Language   □ Mathematics
   □ Islamic Studies  □ Moral Studies     □ Art
   □ Physical Education □ Music           □ Local Studies
   □ Living Skills    □ Science
6. What subjects/methods are you currently teaching:
   - [ ] Bahasa Melayu
   - [ ] English Language
   - [ ] Mathematics
   - [ ] Islamic Studies
   - [ ] Moral Studies
   - [ ] Art
   - [ ] Physical Education
   - [ ] Music
   - [ ] Local Studies
   - [ ] Living Skills
   - [ ] Science

7. Please list the last three courses/in-service training you have attended since being a teacher (Please put down the year course was attended):
   __________________________________________
   __________________________________________
   __________________________________________

8. Please write down your highest academic qualification:
   __________________________________________
   __________________________________________

9. How often do you help pupils with schoolwork outside of your normal teaching times?
   - [ ] Never
   - [ ] Rarely
   - [ ] Sometimes
   - [ ] Often

10. Do you feel that your school's remedial program has been successful in attaining its objectives?
    - [ ] Very successful
    - [ ] Successful
    - [ ] Partially successful
    - [ ] Not successful
    - [ ] Don't know

Please write down additional comments about the remedial program at your school:
   __________________________________________
   __________________________________________
   __________________________________________
   __________________________________________
11. How do you rate the parents' involvement in their children's learning in general?

□ Not involved at all  □ Involved
□ Fairly involved  □ Very involved

12. What is your mother tongue? ________________________________

13. What language do you speak at home? __________________________

14. What other languages do you speak? __________________________

15. If Bahasa Melayu is not the first language you acquired, where and when did you learn Bahasa Melayu?

16. How do you rate your proficiency in Bahasa Melayu?

□ Very proficient  □ Proficient
□ Fairly proficient  □ Not proficient

17. Use the scale below to indicate your daily Bahasa Melayu usage at school.

(1) Always    (2) Often    (3) Sometimes    (4) Never

a. Generally, how often do you use Bahasa Melayu to teach:

(1) (2) (3) (4)

b. Generally, how often do you use Bahasa Melayu with pupils outside of class time:

(1) (2) (3) (4)

c. Generally, how often do you use Bahasa Melayu when discussing school matters with fellow staff members?

(1) (2) (3) (4)

d. Generally, how often do you use Bahasa Melayu when discussing personal matters with fellow staff members?

(1) (2) (3) (4)
18. Your gender: □ Male □ Female

19. Your ethnic origin: □ Malay □ Chinese □ Indian □ Others (Please state) __________

20. Your age: □ 21 - 30 years □ 30 - 40 years □ 40 - 50 years □ 51 years and above

This is the end of the questionnaire. Thank you for your cooperation and participation.

**Bahasa Melayu Comprehension (1998)**

- Std. Dev = 20.42
- Mean = 63.2
- N = 409.00

**Bahasa Malaysia Comprehension Performance (1998)**

**Normal q-q plot**

**Bahasa Melayu Comprehension (1998)**
Expected Normal Frequency

Bahasa Melayu Comprehension (1999)

Std. Dev = 19.03
Mean = 62.8
N = 409.00

10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0
15.0 25.0 35.0 45.0 55.0 65.0 75.0 85.0 95.0

Bahasa Malaysia Comprehension Performance (1999)

Normal Q-Q Plot

Bahasa Melayu Comprehension (1999)
Expected Normal Frequency

Bahasa Melayu Writing (1998)

Std. Dev = 22.75
Mean = 60.4
N = 409.00

Bahasa Malaysia Writing Performance (1998)

Normal Q-Q Plot

Bahasa Melayu Writing (1998)

Observed Value
Expected Normal Frequency

Bahasa Melayu Writing (1999)

Normal Q-Q Plot

Bahasa Melayu Writing (1999)

Std. Dev = 18.94
Mean = 62.7
N = 409.00
Expected Normal Frequency

Bahasa Melayu Writing (2000)

- Std. Dev = 19.42
- Mean = 58.4
- N = 409.00

Normal Q-Q Plot

Bahasa Melayu Writing (2000)

Observed Value
Expected Normal Frequency

Bahasa Melayu Writing PSAT (2000)

- Std. Dev = 1.33
- Mean = 3.7
- N = 409.00

Normal Q-Q Plot

Bahasa Melayu Writing PSAT (2000)

Mathematics Performance (1998)

Normal Q-Q Plot
Mathematics (1998)

Observed Value

-20 0 20 40 60 80 100 120
-3 -2 -1 0 1 2 3
Expected Normal
Mathematics Performance (2000)

Normal Q-Q Plot

Mathematics (2000)
Mathematics PSAT (2000)

Expected Normal Frequency

Mathematics (UPSR)

Normal Q-Q Plot

Mathematics PSAT (2000)
Expected Normal Frequency

Science Performance (1999)

Normal Q-Q Plot

Science (1999)
Expected Normal Frequency

Science (2000)

- Std. Dev = 21.66
- Mean = 54.8
- N = 409.00

Science Performance (2000)

Normal Q-Q Plot

Observed Value

Expected Normal
Science PSAT (2000)

- Std. Dev = 1.18
- Mean = 3.5
- N = 409.00

Normal Q-Q Plot

Science (UPSR)

Observed Value
Overall performance (1998)

- Std. Dev = 84.56
- Mean = 233.6
- N = 409.00

Total in four subjects 1998

Normal Q-Q Plot

Overall Performance (1998)
Expected Normal Frequency

Overall Performance (1999)

Total in four subjects 99

Normal Q-Q Plot

Observed Value
Expected Normal Frequency

Overall Performance (2000)

Std. Dev = 77.49
Mean = 227.2
N = 409.00

Total in four subjects 00

Normal Q-Q Plot

Overall Performance (2000)
Overall Performance PSAT (2000)

Normal Q-Q Plot

Observed Value
### APPENDIX 13: Results of Kolmogorov-Smirnov Tests of Normality

<table>
<thead>
<tr>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu Comprehension Performance (1998)</td>
<td>.125</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension Performance (1999)</td>
<td>.094</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension Performance (2000)</td>
<td>.092</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension (PSAT)</td>
<td>.285</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Writing Performance (1998)</td>
<td>.147</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Writing Performance (1999)</td>
<td>.113</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Writing Performance (2000)</td>
<td>.099</td>
<td>409</td>
</tr>
<tr>
<td>Bahasa Melayu Writing (PSAT)</td>
<td>.253</td>
<td>409</td>
</tr>
<tr>
<td>Mathematics Performance (1998)</td>
<td>.096</td>
<td>409</td>
</tr>
<tr>
<td>Mathematics Performance (1999)</td>
<td>.065</td>
<td>409</td>
</tr>
<tr>
<td>Mathematics Performance (2000)</td>
<td>.093</td>
<td>409</td>
</tr>
<tr>
<td>Mathematics (PSAT)</td>
<td>.255</td>
<td>409</td>
</tr>
<tr>
<td>Science Performance (1998)</td>
<td>.104</td>
<td>409</td>
</tr>
<tr>
<td>Science Performance (1999)</td>
<td>.076</td>
<td>409</td>
</tr>
<tr>
<td>Science Performance (2000)</td>
<td>.078</td>
<td>409</td>
</tr>
<tr>
<td>Science (PSAT)</td>
<td>.175</td>
<td>409</td>
</tr>
<tr>
<td>Total in four subjects 1998</td>
<td>.083</td>
<td>409</td>
</tr>
<tr>
<td>Total in four subjects 1999</td>
<td>.089</td>
<td>409</td>
</tr>
<tr>
<td>Total in four subjects 2000</td>
<td>.075</td>
<td>409</td>
</tr>
<tr>
<td>Total PSAT 2000</td>
<td>.146</td>
<td>409</td>
</tr>
</tbody>
</table>
### APPENDIX 14: Non-Parametric Correlation Coefficients

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Spearman’s rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu Comprehension 1998 + Bahasa Melayu Comprehension 1999</td>
<td>$r = 0.741, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 1999 + Bahasa Melayu Comprehension 2000</td>
<td>$r = 0.726, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 2000 + Bahasa Melayu Comprehension PSAT</td>
<td>$r = 0.682, p&lt;0.05$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Spearman’s rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu Writing 1998 + Bahasa Melayu Writing 1999</td>
<td>$r = 0.771, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Writing 1999 + Bahasa Melayu Writing 2000</td>
<td>$r = 0.757, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Writing 2000 + Bahasa Melayu Writing PSAT</td>
<td>$r = 0.663, p&lt;0.05$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Spearman’s rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 1998 + Mathematics 1999</td>
<td>$r = 0.880, p&lt;0.05$</td>
</tr>
<tr>
<td>Mathematics 1999 + Mathematics 2000</td>
<td>$r = 0.865, p&lt;0.05$</td>
</tr>
<tr>
<td>Mathematics 2000 + Mathematics PSAT</td>
<td>$r = 0.798, p&lt;0.05$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Spearman’s rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science 1998 + Science 1999</td>
<td>$r = 0.780, p&lt;0.05$</td>
</tr>
<tr>
<td>Science 1998 + Science 1999</td>
<td>$r = 0.821, p&lt;0.05$</td>
</tr>
<tr>
<td>Science 1998 + Science 1999</td>
<td>$r = 0.777, p&lt;0.05$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Spearman’s rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu Comprehension 1998 + Bahasa Melayu Writing 1998</td>
<td>$r = 0.683, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 1999 + Bahasa Melayu Writing 1999</td>
<td>$r = 0.570, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 2000 + Bahasa Melayu Writing 2000</td>
<td>$r = 0.716, p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension PSAT + Bahasa Melayu Writing PSAT</td>
<td>$r = 0.620, p&lt;0.05$</td>
</tr>
<tr>
<td>Subjects</td>
<td>Spearman's rho</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 1998 + Mathematics 1998</td>
<td>$r = 0.769$, $p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 1999 + Mathematics 1999</td>
<td>$r = 0.642$, $p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 2000 + Mathematics 2000</td>
<td>$r = 0.728$, $p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension PSAT + Mathematics PSAT</td>
<td>$r = 0.728$, $p&lt;0.05$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Spearman's rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahasa Melayu Comprehension 1998 + Science 1998</td>
<td>$r = 0.750$, $p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 1999 + Science 1999</td>
<td>$r = 0.669$, $p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension 2000 + Science 2000</td>
<td>$r = 0.714$, $p&lt;0.05$</td>
</tr>
<tr>
<td>Bahasa Melayu Comprehension PSAT + Science PSAT</td>
<td>$r = 0.718$, $p&lt;0.05$</td>
</tr>
</tbody>
</table>