

2002

An investigation of the perceptions of the policy maker, teachers and students of the current primary 4 gifted education program in Singapore

Veeramangai Arulselvi Muthiah
Edith Cowan University

Follow this and additional works at: https://ro.ecu.edu.au/theses_hons



Part of the [Gifted Education Commons](#)

Recommended Citation

Muthiah, V. A. (2002). *An investigation of the perceptions of the policy maker, teachers and students of the current primary 4 gifted education program in Singapore*. Edith Cowan University.
https://ro.ecu.edu.au/theses_hons/538

This Thesis is posted at Research Online.
https://ro.ecu.edu.au/theses_hons/538

Edith Cowan University

Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.
- A reproduction of material that is protected by copyright may be a copyright infringement. Where the reproduction of such material is done without attribution of authorship, with false attribution of authorship or the authorship is treated in a derogatory manner, this may be a breach of the author's moral rights contained in Part IX of the Copyright Act 1968 (Cth).
- Courts have the power to impose a wide range of civil and criminal sanctions for infringement of copyright, infringement of moral rights and other offences under the Copyright Act 1968 (Cth). Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

**An Investigation of the Perceptions of the Policy Maker,
Teachers and Students of the current Primary 4 Gifted
Education Program in Singapore**

by

Veeramangai Arulselvi Muthiah

A Thesis Submitted in Partial Fulfilment of the Requirements for the

Award of

Bachelor of Education (Special Education) with Honours

At the Faculty of Community Services, Education & Social Sciences

Edith Cowan University, Australia

March 2002

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

ABSTRACT

As Singapore is a rapidly expanding technological society, there is a strong need for emergent thinkers or innovators due to global competition. Therefore, the identification of exceptionally able children is critical for the continued growth of Singapore. Singapore is a very small nation and relies strongly on human resources for its progress and prosperity. Hence, early identification of exceptionally able children will be an advantage to the nation. Education of gifted and talented children is just as important as the education of children with disabilities or developmental delay.

In addition, there is growing concern among many Singaporeans that the current education system is very stressful. The Prime Minister, Goh Chok Tong was reported as saying that some gifted children felt that they had under-performed at school, disappointed their parents and were thinking of committing suicide. He also added that some parents had very high expectations for these children.

The objective of this study was to investigate the current Gifted Education Program (GEP) provided in Singapore for young gifted children. This study examined the perceptions and beliefs of the policy maker, teachers and primary 4 gifted children of the current Gifted Education Program in Singapore. It is important to investigate how these young gifted children feel about their classes and if the program makes any difference or indeed creates more stress for them.

The overall design used in conducting this study was descriptive qualitative case study methodology. Triangulation was used in this study by obtaining the perspectives of the policy maker, teachers and students. Information was also collected in many ways, using semi-structured interviews with guiding interview schedules, document reviews, audio recording and other supplementary techniques. A case study approach was used to describe the children's experiences and their perceptions, using their own words and drawings.

The major findings of the study are as follows:

- i. The Ministry of Education (MOE) has no involvement in early identification and provision for gifted children below the age of Primary 3 nor in training

early childhood professionals or mainstream teachers to identify or provide for children below the Primary 3 level.

- ii. The National University of Singapore, the Association for Gifted Children, Mensa and the Morris Allen Study Centres are some of the organisations in Singapore that do provide some form of assistance such as counselling, advice, IQ tests or enrichment classes to parents and their gifted children who are too young to sit the Primary 3 Screening Tests.
- iii. The current GEP caters for the needs of young gifted children who express very positive feelings towards their GEP teachers and the program, in comparison to their former mainstream teachers and the education they received previously.
- iv. However, certain areas of concern were reported by the young gifted students in relation to the current GEP, such as having to sit for the same exam as the other mainstream students; having too much set homework; and finding the study of Chinese too time consuming and difficult.
- v. To ensure that the GEP teachers are capable of accommodating and achieving the GEP's goals and objectives the MOE has a strict selection procedure for recruiting teachers into their program. The selected teachers are regularly observed teaching gifted children in their classrooms so as to monitor the effectiveness of their teaching strategies; questioning and responses skills to students' questions; tolerance of gifted children's curiosity; and patience with gifted children.
- vi. On the whole, the GEP teachers perceive their roles to be facilitators; advocates of lifelong learning; resource gatherers; providers of an enriched differentiated curriculum; observers; counsellors; enthusiastic, animated and passionate teachers of young gifted children; and promoters of socialisation among the gifted children.
- vii. The perceptions of the GEP teachers of their roles are congruent with those of the MOE in Singapore, the policy maker and the young gifted children reported in this study and the literature.

Recommendations for policy makers and parents of gifted children arising from the findings of this study are:

- i. using a combination of methods to identify potentially gifted children who are too young to sit for the Screening Tests;
- ii. providing more programs and resources and educating parents of young gifted children how to observe and detect early signs of depression;
- iii. investigating factors of the current stressful education system which give rise to young children consulting the psychiatrists or committing suicide;
- iv. including parents, early childhood and mainstream teachers in the gifted education seminars and conferences organised by the Gifted Education Branch of MOE;
- v. training mainstream teachers in gifted education and the various issues related to it;
- vi. implementing a separate exam for young gifted children; and
- vii. providing more independent projects in individual areas of interest for gifted students.

It is important to note that the experiences received by gifted children at school, home and in society, have an important effect on their cognitive, emotional and psychological development. The policy maker's and teachers' views, attitudes and behaviour play an important role in the provision of an effective Gifted Education Program in Singapore. However, the inclusion and cooperation of the parents and the mainstream teachers in identifying and catering for young gifted children is necessary to prevent the loss of any potentially gifted students.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

- i. incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;
- ii. contain any material previously published or written by another person except where due reference is made in the text; or
- iii. contain any defamatory material.

Signature

Date 16. 04. 2002

ACKNOWLEDGEMENT

I would like to acknowledge the enormous contribution and assistance the following people have made in the preparation of this study:

Dr. Dawn Butterworth, my supervisor, for her careful supervision and support provided throughout various stages of this study. Her knowledge and expertise on early childhood education and gifted education has been a great source of inspiration and encouragement for me to explore and learn about various issues related to gifted education. My sincere gratitude for her time, diligence, patience and gentle encouragement.

Associate Professor Chris Forlin for her keen interest and support and for providing constructive criticism of the study, especially during the early stages, which enabled me to gain new ideas.

Appreciation is also expressed to Graylands Teachers' College Memorial Scholarship Fund for the provision of financial support to conduct the study.

The Ministry of Education in Singapore and the Gifted Education Branch for granting permission to conduct this study in Singapore.

The Policy Maker, Principals of the three GEP schools, GEP teachers and the young primary 4 gifted students for their time, co-operation and support in conducting the study in Singapore.

My parents, Muthiah and Lakshmi, for their love, time, trust and endless support in helping me reach my goal, and my brothers, Thirumaran and Ravi, for their patience.

My cousin, Ilanchezhian, for his endurance, support and endless encouragement, not just throughout the study, but also throughout the course, and for always being there for me.

My dear friend, Arulkunalan, for his strong support and faith in me. He will always be a role model and an inspiration to never give up.

TABLE OF CONTENTS

ABSTRACT.....	II
DECLARATION.....	V
ACKNOWLEDGEMENT.....	VI
TABLE OF CONTENTS.....	VII
LIST OF TABLES	XV
LIST OF FIGURES	XVI
CHAPTER ONE. INTRODUCTION	1
1.1 The Background to the Study	2
1.2 The Significance of the Study	4
1.3 The Purpose of the Study.....	7
1.4 Research Questions.....	7
1.5 Definitions of Terms or Operational Definitions.....	7
1.6 Summary.....	9
CHAPTER TWO. REVIEW OF THE LITERATURE	10
2.1 Definitions of Giftedness.....	10
2.2 Identification.....	13
2.2.1 Reasons for Identification	13
2.3 Current Directions in Early Identification of Gifted Children	16

2.3.1 Parent and Teacher Views on Identification, Early Admission and Programming	17
2.3.2 Negative Consequences of Non-Recognition of Young Gifted Children	18
2.3.3 Behaviour Problems	19
2.3.4 Methods of Identification	20
2.3.5 Teaching Implications	22
2.3.6 Parenting Styles	22
2.3.7 Families of Gifted Children.....	22
2.3.8 Children's Attitudes	23
2.3.9 Conclusion.....	25
2.4 Overview of the History of Gifted Education in Singapore	25
2.5 Research in Gifted Education in Singapore.....	27
2.5.1 Pull-out Gifted Program in Singapore.....	27
2.5.2 Evaluation of Pull-out Gifted Program in Singapore	28
2.6 Summary.....	29
CHAPTER THREE. THEORETICAL FRAMEWORK.....	31
3.1 Conceptual Framework.....	33
3.2 Summary.....	33
CHAPTER FOUR. MATERIALS AND METHODS	34
4.1 Target Population	34
4.2 Design.....	34
4.3 Instruments	36
4.4 Procedure	39

4.5 Data Analysis.....	40
4.6 Limitations.....	41
4.7 Ethical Considerations.....	41
4.8 Summary.....	41
CHAPTER FIVE. RESULTS AND DISCUSSION	42
5.1 Profile of Policy Maker	43
5.1.1 Background Information	43
5.2 Profile of Teachers.....	43
5.2.1 Background Information	44
5.2.1.1 (TA-1) Teacher from SCH-A	44
5.2.1.2 (TA-2) Teacher from SCH-A	44
5.2.1.3 (TB-3) Teacher from SCH-B.....	44
5.2.1.4 (TB-4) Teacher from SCH-B.....	44
5.2.1.5 (TC-5) Teacher from SCH-C.....	45
5.2.1.6 (TC-6) Teacher from SCH-C.....	45
5.3 Profile of Pupils	46
5.3.1 Background Information	46
5.3.1.1 (PA-1) Pupil from SCH-A	46
5.3.1.2 (PA-2) Pupil from SCH-A.....	49
5.3.1.3 (PB-3) Pupil from SCH-B	51
5.3.1.4 (PB-4) Pupil from SCH-B	54
5.3.1.5 (PC-5) Pupil from SCH-C	56
5.3.1.6 (PC-6) Pupil from SCH-C	57
5.4 Summary of the six students' 'Me' box writings	60
5.4.1 Summary of Experiences prior to Identification	61
5.4.2 Summary of Experiences since Identification.....	62
5.4.3 Summary Expectations of Students by others	63
5.4.4 Summary of Self Expectations	64

5.4.5 Summary of Students' Expectations of their Teachers', their Parents' and their Friends' Roles	65
5.4.6 Summary of Self-image: Strengths and Weaknesses	66
5.4.7 Summary of Concerns	67
5.5 Research Question 1: What Provision is made for Young Gifted Children in Singapore?	68
5.5.1 Gifted Children's Primary Needs	68
5.5.2 Significance	68
5.5.3 Provision for Gifted Children (10 Years Old).....	69
5.5.3.1 Aims of the GEP	69
5.5.3.2 GEP catering for the children's social/emotional development	70
5.5.3.3 Enrichment.....	71
5.5.3.4 Curriculum.....	73
5.5.3.5 Enrichment programs	73
5.5.3.6 Innovation program	73
5.5.4 Provision for Gifted Children (0 to 9 Years Old).....	73
5.5.5 Conclusion.....	75
5.6 Research Question 2: What are the Roles of the Policy Maker and Teachers of Gifted Education in Singapore?	76
5.6.1 Success of Gifted Education Programs	76
5.6.2 Significance	77
5.6.3 Policy Maker's Role	77
5.6.3.1 Differentiated curriculum	78
5.6.3.2 Benefits of differentiated instruction	78
5.6.3.3 Recruitment of teachers	79
5.6.3.4 Qualifications, expectations and training	80
5.6.4 Teachers' Role.....	82
5.6.4.1 Teaching characteristics that maximise young gifted children's learning	82
5.6.4.2 Role as advocates of lifelong learning.....	83
5.6.4.3 Role as facilitators	85
5.6.4.4 Confidence in subject content area with a passion for teaching.....	86

5.6.4.5 Fostering socialisation	88
5.6.4.6 Children's expectations of their teachers' roles	91
5.6.5 Conclusion.....	91
5.7 Research Question 3: What are the Attitudes and Opinions of Teachers and Children of Current Gifted Education Provision in Singapore?	92
5.7.1 Expectations Teachers have for Gifted Students.....	92
5.7.2 Significance	93
5.7.3 Attitudes and Opinions of the GEP Teachers.....	93
5.7.3.1 Towards the selection procedure of teachers.....	94
5.7.3.2 Towards the primary 3 screening and selection tests	95
5.7.3.3 Towards gifted children	97
5.7.3.4 Towards the most important learning for the gifted children from GEP.....	99
5.7.3.5 Towards parent participation and providing advice to them	100
5.7.4 Children's Attitudes and Opinions	104
5.7.4.1 Young gifted students' challenges	104
5.7.4.2 Significance	104
5.7.4.3 Towards projects given in the GEP	106
5.7.4.4 Towards the subjects taught in the GEP	109
5.7.4.5 Towards homework given in the GEP	112
5.7.4.6 Towards exams in the GEP	113
5.7.4.7 Likes and dislikes about the GEP	115
5.7.5 Comparison of the Gifted Children's Attitudes	117
5.7.5.1 Significance	117
5.7.5.2 Attitudes towards their early childhood teachers and mainstream teachers in comparison to their GEP teachers.....	118
5.7.5.3 Attitudes towards their classmates from the GEP and classmates from the mainstream schools.....	122
5.7.6 Conclusion.....	127
5.8 Summary.....	133
CHAPTER SIX. SUMMARY AND CONCLUSION	135

6.1 Summary of the Major Findings of the Study	135
6.2 Summary of the Answers to the Research Questions	137
6.2.1 Research Question 1: What Provision is made for Young Gifted Children in Singapore?	137
6.2.2 Research Question 2: What are the Roles of the Policy Maker and Teachers of Gifted Education in Singapore?	139
6.2.3 Research Question 3: What are the Attitudes and Opinions of Teachers and Children of Current Gifted Education Provision in Singapore?	142
6.3 Implications	147
6.3.1 Implications for Policy, Practice and Future Research.....	147
6.4 Recommendations for Parents	156
6.5 Conclusion	158
REFERENCES.....	161
APPENDIX 1. THE EDUCATION SYSTEM.....	171
APPENDIX 2. CHECKLIST OF CHARACTERISTICS OF THE GIFTED CHILD	172
APPENDIX 3. INFORMATION LETTERS AND CONSENT FORMS	173
Appendix3.1 Information Letter to MOE.....	173
Appendix 3.2 Information Letter to Principals of Schools.....	175
Appendix 3.3 Information Letter to Parents.....	177
Appendix 3.4 Consent Forms to the Policy Maker, Teachers, and Children to Take Part in the Study	179
Appendix 3.5 Consent Forms to Principals to Interview the Teachers and Children	180
Appendix 3.6 Consent Forms to Parents to Interview their Children	181

APPENDIX 4. GUIDED INTERVIEW SCHEDULE FOR POLICY MAKER	182
Appendix 4.1 Semi-Structured Interview Guiding questions for policy maker	183
APPENDIX 5. GUIDED INTERVIEW SCHEDULE FOR TEACHERS... 185	
Appendix 5.1 Semi-Structured Interview Guiding questions for Teachers....	187
APPENDIX 6. GUIDED INTERVIEW SCHEDULE FOR STUDENTS 191	
Appendix 6.1 Semi-Structured Interview Guiding questions for Students	193
APPENDIX 7. APPROVAL OF THE MOE	197
APPENDIX 8. CHILDREN'S 'ME' BOXES	199
Appendix 8.1 'Me' Box of PA-1	199
Appendix 8.1.1 Writings on the Outside of the Box	199
Appendix 8.1.2 Writings on the Inside of the Box.....	200
Appendix 8.2 'Me' Box of PB-3	201
Appendix 8.2.1 Writings on the Outside of the Box	201
Appendix 8.2.2 Writings on the Inside of the Box.....	202
Appendix 8.3 'Me' Box of PC-5	203
Appendix 8.3.1 Writings on the Outside of the Box	203
Appendix 8.3.2 Writings on the Inside of the Box.....	204
Appendix 8.4 'Me' Box of PA-2	205
Appendix 8.4.1 Writings on the Outside of the Box	205
Appendix 8.4.2 Writings on the Inside of the Box.....	206
Appendix 8.5 'Me' Box of PB-4	207
Appendix 8.5.1 Writings on the Outside of the Box	207

Appendix 8.5.2 Writings on the Inside of the Box.....	208
Appendix 8.6 'Me' Box of PC-6	209
Appendix 8.6.1 Writings on the Outside of the Box	209
Appendix 8.6.2 Writings on the Inside of the Box.....	210
APPENDIX 9. THE ENRICHMENT MODEL.....	211
APPENDIX 10. THE ORGANISATION CHART FOR THE GE BRANCH	212
APPENDIX 11. THE GEP BROCHURE FOR PARENTS AND STUDENTS	213
APPENDIX 12. THE STUDENT'S PATH THROUGH THE GEP.....	217

LIST OF TABLES

Table 1. Study Instruments	37
Table 2. Summary Profile of Teachers	45
Table 2. Summary Profile of Pupils	60

LIST OF FIGURES

Figure 1. Renzulli's (1968) three ring model	11
Figure 2. Conceptual framework	33
Figure 3. Steps involved in the procedure	39
Figure 4. 'Me' Boxes - Experiences prior to identification	61
Figure 5. 'Me' Boxes - Experiences since identification.....	62
Figure 6. 'Me' Boxes - Expectations of students by others	63
Figure 7. 'Me' Boxes - Self Expectations.....	64
Figure 8. 'Me' Boxes - Students' Expectations of their teachers', their parents' and their friends' roles.....	65
Figure 9. 'Me' Boxes - Self-image: Strengths and Weaknesses.....	66
Figure 10. 'Me' Boxes – Concerns	67

CHAPTER ONE. INTRODUCTION

“Every gift contains a danger. Whatever gift we have we are compelled to express. And if the expression of that gift is blocked, distorted, or merely allowed to languish, then the gift turns against us, and we suffer” (Johnson, 1993, p. 15).

The first four years of a child's life are the most critical for human development. The personality that the child establishes and the type of learning opportunities accessible will either aid or inhibit the development of inherited intellectual capacity. Parents and educators have the choice of either planning to provide the most nourishing environment that is possible within their present knowledge, or allowing this important interaction to take place by chance. No matter how they decide to approach these formative years, interaction will still occur and intelligence will still develop. However, whether that development leads to actualisation or the loss of human potential depends on them (Clark, 1997). If infants do not receive proper stimulation during the early years of their lives, their brains will not develop properly, and they will not realise their potential if they are not stimulated throughout infancy, preschool and early elementary education. The ages of 3, 4 and 5 are critical periods and gifted children will lose their giftedness if they are not challenged and nurtured by their families and/or schools to develop their brains to their maximum ability (Maurice Fisher, cited in Ziemann, 1999).

In Singapore, the Gifted Education Program caters for intellectually gifted pupils from primary 4 to secondary 4. This appears to be the common situation in many countries, for “most public schools that have gifted programs don't start with students until around 4th grade, which is past this critical period” (Ziemann, 1999, p.2). It is important that the curriculum for all preschool children is rich in variety and stimulating in process. Such variety and stimulation are even more essential for the children who are developing faster and who are showing higher levels of intelligence (Clark, 1997).

When parents or other early childhood professionals begin to notice any exceptional ability or rapid development, they should seek the advice of

professionals. Children may start to show abilities ahead of their same-age playmates. For example, if a 3-year-old presents abilities typical of a 4- or 4 $\frac{1}{2}$ -year-old, or a child of 4 presents abilities typical of 5- or 6-year-olds, they might be considered gifted in those areas of ability because they are showing abilities that add $\frac{1}{4}$ to $\frac{1}{2}$ of their actual age (Robinson, cited in Clark, 1997).

Since the Gifted Education Program in Singapore, “is not offered before primary 4 in any government or government-aided school in Singapore,” (Gifted Education Branch, 2001a, para. 3), this would mean that children who are below the age of ten would not be included in the Gifted Education Program. Hence, what happens to children who possess unique abilities before the age of ten? What forms of provision are given to the very young gifted children? It is not too young to test even a four-year-old child by a qualified examiner who is experienced with gifted children. This is essential because gifted children need to be given early exposure to games and activities that are designed for older children so that their minds are developmentally advanced (Rogers & Silverman, n.d.).

Jee (2001) states in a recent Straits Times article, that Singapore’s education system is frequently being criticised. Essentially, the research indicates that Singapore’s education system is being criticised by many parents and that more and more children in Singapore are undergoing stress. Jee (2001, p. 1) asks, “what is causing the unhealthy stress suffered by our children?” Thus, it is important to investigate how young gifted children in primary 4 feel about their classes.

1.1 The Background to the Study

In his National Day Message 2000, the Prime Minister of Singapore stated that, “every Singaporean is now competing against the rest of the world. Not just bankers and airline employees, but also nurses, retailers, and factory operators. This is the reality of globalisation” (Singapore Government Media Release, 2000, para. 3). It is essential to note that due to global competition, there is a strong need for divergent thinkers or innovators within a rapidly expanding technological society. Hence, identification of exceptionally able and talented children is crucial for the

continued growth of Singapore. As emphasised by the Prime Minister of Singapore (cited in Singapore Government Media Release, 2000):

The key to Singapore's continued growth is talent. We must get the best people for the most crucial jobs, to run our companies and the government. We need people, Singaporeans and foreigners, who have fresh perspectives and insights and the enterprise and drive. They can anticipate and solve problems, and create opportunities for us. And they will need good supporting teams to succeed (para. 8).

As Singapore is a very small nation and has a strong reliance on human resources for its progress and prosperity, it is to the advantage of the nation that exceptionally able children be identified early and nurtured. All children have the right to an education that will enable them to perform and accomplish maximum educational outcomes.

It is often assumed by many that since gifted children are exceptionally intelligent and creative, they do not require special attention or care. Many believe that these children have no major challenges in learning and development. However, this is not true as these exceptionally able children have special needs and may experience problems such as emotional coping, peer pressure, parental protectiveness, as well as social and academic needs (George, 1992). Sometimes teachers are not aware of the impact of their perceptions and expectations on these exceptionally able children. Often a suitable atmosphere or environment is not provided at school or at home for these children due to the lack of knowledge of the needs of these exceptionally able children. Parents and teachers should have the willingness to encourage students whenever their performance or attitude shifts (even slightly) in a positive direction, for it is the key to eventual success (Sturt, 1999).

It is essential that these children be given proper attention and that their abilities and talents be appreciated and recognised by society, since they are society's prime assets. It is important also to ensure that, "children are not disadvantaged on the basis of gender, race, culture or socio-economic background; physical or sensory disability; geographic isolation or profound giftedness" (Education Department of Western Australia, 1997, p. 1).

Prime Minister Goh Chok Tong in his National Day Message 2000 (cited in Singapore Government Media Release, 2000) urged Singaporeans to compete on larger markets. He pointed out that:

Singapore cannot just rely on Southeast Asia as our hinterland. Our neighbours too want to do what we are doing. They too aspire to become regional hubs for shipping, aviation, banking and IT. We must cast our net wider. We need to draw business from a bigger region, including India, China, Australia and New Zealand. And we must increase our links with the US, Europe and Japan (para. 2).

In order for Singapore to progress further, it has to recognise the various emotional and intellectual needs of exceptionally able children. Very often when a child is identified as being gifted, he or she is not provided with sufficient information about what being gifted really means. Parents are often not informed sufficiently about how they can best provide for their exceptionally able children.

In 1981, the late Dr Tay Eng Soon, then Minister of State for Education, led a mission to study the Gifted Education Programs in other countries. According to the Gifted Education Branch (2001b, para. 1), this mission “strengthened the belief that there was a compelling need to start a program for gifted children in Singapore.”

According to Catherine Lim, a Singaporean writer and social analyst, Singapore’s culture is changing rapidly due to globalisation and the spread of cosmopolitan ideas through Internet. Indeed, not only are the effects of globalisation being felt strongly in Singapore but they are also impacting on Singapore’s culture (cited in Richardson, 1999).

Therefore, an investigation of the attitudes, feelings and provisions for exceptionally able children in Singapore is necessary in order to identify to what extent gifted and talented children’s needs are being fulfilled and how appropriate the current programs are.

1.2 The Significance of the Study

As recently published in the Straits Times, there is an increasing number of children in Singapore who are getting help from psychiatrists. Between 1990 and 1998, the number of young psychiatric patients multiplied 3 ½ times. The

psychiatrists have warned that this trend will continue if the children's "pressure-cooker environment" does not change. The latest figures reveal that in 1998, twenty thousand children sought help in comparison with just five thousand six hundred in 1990. In addition to this, in 1998, of the two thousand three hundred and thirty-eight new cases seen at the Institute of Health's Child Psychiatric Clinic, half were in primary school and fifteen per cent were children of pre-primary age. The remaining thirty-five per cent were secondary-school students (Ting, 2001).

Another concern for many Singaporeans springs from a report published in the Straits Times and titled, 'Girl jumps to death over PSLE results' quoted by Yeo (2001). Yeo points out that much has been said about the national bias towards achievement and the search for excellence. However, more has to be done regarding its increasing social and psychological cost to people. The Ministry of Education (MOE) might have to initiate new directions. Some possible areas of action suggested are to provide more personal attention to students; to organise support groups for parents; and to enhance the coping resources of parents. Yeo also cautions that time should be considered as an essential, non-negotiable ingredient for both teachers and students to increase contact. However, feedback from teachers often indicates that they are so stressed by the demands of work, that they have little time and energy to contact parents. Yeo mentions that, based on work with parents who have lost children through suicide or whose children have attempted suicide, it has been discovered that these children often experience anxiety and insecurity in their relationships with their parents with regard to their education. Hence, as Yeo states, it is essential that parents get involved.

According to Fleith (1998) bright youngsters who are emotionally stressed have been receiving considerable attention as a population who may be vulnerable to suicide. Anxiety and stress can be provoked by any possible signs of failure and excessive concern about errors and high parental and societal expectations can also result in impotence, depression and absence of self-worth (Delisle, cited in Fleith, 1998).

In the last decade, developed and less-developed countries throughout the world have sought to nurture the talented. However, even though much emphasis has been placed on the development of cognitive abilities of gifted youngsters, little

attention has been paid to their social and emotional development (Passow & Schiff, cited in Fleith, 1998). Hence, it is important to investigate current provisions for young gifted children in Singapore in order to assist policy makers, teachers and parents to better understand young gifted children's social and emotional development.

As recently published in the Straits Times, a survey was conducted to make a comparison of the stress levels of Singaporean students with that of American and Japanese students in Singapore. The finding revealed that American children appeared to have the healthiest attitude towards school, and despite an equally heavy workload, Japanese children were not as stressed as Singaporean children. When the children were asked what their greatest fear was, one in two Singaporean children cited failing their examinations and not scoring high marks. Ninety percent of the Japanese children cited losing their parents, while eighty percent of American children said losing their friends was their greatest fear. Following this, there was a call from many parents for the Singaporean Government to do away with streaming in schools and to relax the second-language requirement. A parent put it starkly, "How many suicides, attempted suicides and mental breakdowns must there be among our children before the authorities will reconsider?" The parent further added that the family would leave Singapore as the children reached school age rather than risk their well being. Other parents placed the blame on a rigid school system that over-emphasised academic achievement (Davie, 2001). It is important therefore, that parents and educators work together, in order to achieve healthy emotional, as well as intellectual growth, of the gifted child.

However, in order for these children to fully benefit from this combined effort, it is important that parents and schools share similar goals. Indeed, it is essential that there be congruence of expectations so that children are given appropriate guidance, to maximise their chances of fulfilling their potential (Webb, 1999).

The results of the study reported here will increase the understanding of Policy Makers in Gifted Education of teachers' and children's perceptions of the Gifted Education Program. It will also assist parents of Gifted children to better understand the current Gifted Education Program in Singapore. Implications for

future practice will also be drawn from the attitudes of the young Gifted children towards pull-out from regular programs, as well as their perceptions of whether or not their needs are being met. Finally, this study will clearly articulate the current roles of Policy Maker and teachers in the Gifted Education Program in Singapore.

1.3 The Purpose of the Study

1. To investigate current provision for Gifted and talented children in Singapore.
2. To investigate the roles of the Policy Maker and teachers of Gifted Education in Singapore.
3. To investigate the attitudes, values and perceptions of teachers and gifted children towards the Gifted Education Program in Singapore.

1.4 Research Questions

1. What provision is made for young Gifted children in Singapore?
2. What are the roles of the Policy Maker and teachers of Gifted Education in Singapore?
3. What are the attitudes and opinions of teachers and children of current Gifted Education provision in Singapore?

1.5 Definitions of Terms or Operational Definitions

1. MOE - The Ministry of Education in Singapore.
2. GEP - Gifted Education Branch.
3. Young gifted children - children who are between 0 and 10 years of age and are deemed to be of exceptional ability.
4. Primary 1 to 4 - are the four years of primary school starting from the age of seven and which are regarded as the foundation years (Appendix 1- The Education System).

5. Primary 3 screening test - the selection of pupils to join the GEP at Primary 4 is based on performance in this test (Appendix 12 - The student's path through the GEP).
6. Primary 5 to 6 - are the two years of orientation stage starting from the age of 11 (Appendix 1- The Education System).
7. PSLE - The Primary School Leaving Examination is a national examination held at the end of Primary 6.
8. Independent schools - enjoy autonomy in setting their own scale of fees, in the admission of pupils, in the selection and appointment of teachers and principals as well as in curriculum matters. They conform to national education policies.
9. Autonomous schools - are either government or government aided schools. They are given additional funds and more leeway to execute their mission of providing quality education. They too, conform to national education policies.
10. The Special Assistance Plan (SAP) schools - are established to maintain high standards in both English and Chinese, whilst preserving the traditional ethos existing in the schools.
11. Secondary 1 – 4 are the four years of secondary education starting from the age of 13.
12. Gifted children - children who are outstanding in general or specific ability in a broad or narrow field.
13. Achievement - accomplishment or performance; the realisation of potential.
14. Peer group - people with whom one feels equal. It can also refer to students who are from the same classroom.
15. Perfectionism - the desire to execute tasks flawlessly.
16. Pull-out - a special education program that takes exceptionally able children out of the regular class for a limited time.
17. Enrichment - a deeper coverage of content often provided for gifted students.

18. Acceleration - a quicker presentation of content to more closely match the speed at which gifted students learn.
19. Gifted programs - provide special academic and social opportunities in an attempt to meet the needs of gifted students.
20. Underachiever - a gifted student who is defined as having superior intelligence, but is working below grade level. Some underachievers may withdraw and others may become disruptive.
21. Levels of giftedness refers to the following labels that are generally accepted based on IQ measurements:
 - Bright – 115 and above
 - Gifted – 130 and above
 - Highly gifted – 145 and above
 - Exceptionally gifted – 160 and above
 - Profoundly gifted – 175 and above

1.6 Summary

This chapter presented the background to this case study of the Policy Maker's, Primary 4 gifted students' and their teachers' attitudes and opinions of the current GEP in Singapore. It illustrated the importance of conducting this study by examining some pertinent issues in Singapore and the media coverage given to the stressful education system in Singapore. The purpose of conducting this study and the research questions that provided the focus for this study were also presented. The main objective of this study, which was to investigate the current GEP in Singapore for young gifted children, was highlighted. Finally, the key terms and their definitions used in this study were outlined. This research study is significant as it investigates the attitudes and opinions of young gifted children and provides a foundation for future research to be conducted in the field of gifted education in Singapore. The following chapter will examine and review the literature on gifted education related to this study.

CHAPTER TWO.

REVIEW OF THE LITERATURE

2.1 Definitions of Giftedness

A review of the literature on gifted education reveals that there is a lack of consensus on what giftedness means. Numerous definitions are given of giftedness and many are ambiguous. Moreover, the interpretation of giftedness has changed over the years from a narrow concept of giftedness as simply a high I.Q score.

As mentioned by Parke (1989, p. 7), over the years, "the meaning of the term gifted has changed from a single-dimensional (high IQ) definition to one in which multiple abilities and intelligences are recognised."

According to Clark (1997):

giftedness is a biologically rooted concept that serves as a label for a high level of intelligence and indicates an advanced and accelerated development of functions within the brain. Such development may express itself in high levels of cognitive, affective, physical sensing, and/or intuitive abilities, such as academic aptitude, insight and innovation, creative behaviour, leadership, personal and/or interpersonal skill, or visual and performing arts (p. 26).

As indicated by Roedell, Jackson & Robinson (1980):

the definition of giftedness in children has been broadened. According to the U.S. Commissioner of Education (1972) it is recommended that gifted children be identified not only by measures of intellectual ability and scholastic aptitude, but also by indices of creativity, leadership, talent in the visual and performing arts, and psychomotor ability (p. 2).

According to Clark (1997):

the term "gifted and talented" when used in respect to students, children or youth means students, children or youth who give evidence of high performance capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities (p. 27).

Martin (1989) states that there are currently two definitions of the gifted and talented. The more popular definition is that of the United States Office of Education:

The term gifted and talented means children, and where applicable, youth, who are identified at the pre-school, elementary or secondary school level as possessing demonstrated or potential abilities that give evidence of high performance responsibilities in areas such as intellectual, creative, specific academic or leadership ability, or in the performing or visual arts and who by reason thereof, require services or activities not ordinarily provided by the school (p. 26).

The other frequently used definition is Dr. Joseph Renzulli's (cited in Martin, 1989, p.26) "three ring" definition:

Giftedness consists of an interaction among three basic clusters of human traits-above-average general abilities, high levels of task commitment and high levels of creativity. Gifted and talented children are those processing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Children who manifest or are capable of developing an interaction among these three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs.

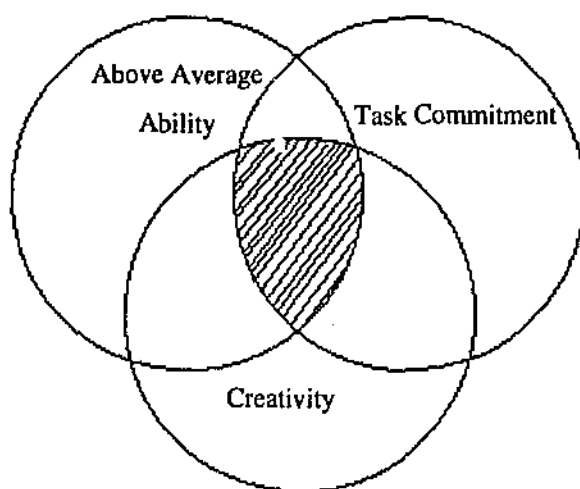


Figure 1. Renzulli's (1968) three ring model

Either definition is a move beyond the concept that giftedness is a high I.Q. score. Both definitions emphasise the need for "experiences" not ordinarily provided by the schools. Both stress achievement or the potential to achieve.

The important fact here is that gifted children require educational opportunities beyond the curriculum and instructional practices of regular education.

According to Gowan (1979), even though:

intelligence had been recognised since the time of the Romans as the first aspect of personality, no one up to the 20th century had been able to solve the puzzle of measuring it. It was the genius Alfred Binet, a French psychologist, who perceived that developmental tasks were the answer which could crack the problem (p. 7).

The history of gifted education is described by Davis & Rimm (1998, p. 6) as, “Galton was the grandfather of the gifted-child movement, Binet the midwife, Terman the father, and Columbia University’s Leta Stetter Hollingworth the nurturant mother.”

The team of members in the newly set up Gifted Education Unit in 1983 in their search for an operational definition for the GEP in Singapore, realised that there was no universal consensus on the concept of giftedness as mentioned earlier in this chapter. They noticed that some concepts were broad while others were limited to test scores (Thaver, 1995).

The Ministry of Education in Singapore is committed to make certain that the potential of each child is recognised, nurtured and developed. It aims to provide an education that is of high quality and relevance and that stimulates the individual growth of each child. It hopes to help the children realise their full potential (Gifted Education Branch, 2001c). Hence, the team of members in the Gifted Education Unit agreed, after some time, to adopt the definition provided by the United States Office of Education (USOE) (Thaver, 1995).

According to the Ministry of Education (1999, p. 3), the term gifted is defined as “a broad term used to include many kinds of strengths, aspirations and needs. The broad areas in which giftedness can be shown are intellectual ability, leadership ability, talent in art and music, and psychomotor ability.”

The team of members in the Gifted Education Unit developed a checklist of characteristics of the gifted child based on research compiled by Dr Joseph Renzulli. The checklist is especially helpful to teachers in identifying the high-achieving child,

the hidden able child and the high-achieving child with behaviour problems (Appendix 2 - Checklist of Characteristics of the Gifted Child).

In summary, the Ministry of Education (1999) recognises that an intellectually able child cannot be merely defined by a list of characteristics and that a child is not likely to have all the characteristics listed in the 'Checklist of Characteristics of the Gifted Child' (Appendix 2), nor will a particular characteristic be evident at all times. However, the GEP recognises that a child displaying a vast number of these characteristics could well have exceptional intellectual potential.

2.2 Identification

2.2.1 Reasons for Identification

Literature around the world emphasises that early identification is essential and that failure to do so can create a lot of problems in the long run such as underachievement, stress and boredom.

As mentioned by Winner (1996):

numerous studies confirm a sad finding: The most intellectually gifted students in the United States typically have little good to say about their schooling; they tend to be highly critical of their teachers, who they feel know less than they do, and they are often underachievers (p.1).

The best case scenario is when a student is recognised by the teacher as gifted, but being unable to teach at this level, they allow the child to learn independently. The worst-case scenario is when there is a failure to recognise a child as gifted and the teacher classifies the child as unmotivated or even hostile (Winner, 1996).

It is essential that when children present advanced abilities and strengths during the early childhood years, they be provided with a curriculum that best suits or matches their abilities, so that their potential can be maximised. From a very early stage onwards in a child's life, the potential for giftedness, or high levels of intellectual development begins. This development depends largely on a rich and appropriate interaction between the child's genetic endowment and the environment

in which the child grows. As Clark (1997, p.92) adds, “no child is born gifted, only with the potential for giftedness.” Although all children have amazing potential, it is only those children who are fortunate enough to have opportunities to develop their uniqueness in an environment that responds to their particular patterns and needs who will be able to essentially achieve abilities that are of high levels (Clark, 1997).

As Davis & Rimin (1998, p.53), point out, “for underachieving students, their loss of talent development is a personal crisis for them and a lost natural resource for humankind.” Some parents might not acknowledge that their child is gifted. As mentioned by Porter (1998):

parents either mistakenly think that gifted children are not emotionally balanced and so don't want to acknowledge the talent that is right in front of them, or they keep it a secret because they don't want to be seen to be a pushy parent (p. 7).

Early childhood professionals need to look out for very young children who are able to read early or who present other well-developed abilities. These children need to be encouraged, challenged and stimulated beyond the normal curriculum. As mentioned by Education Department of Western Australia (1997), it is during these:

early critical years that dispositions towards learning and feelings about areas of learning are formed and the foundations for future academic success are established. Failure to foster productive dispositions, including habits and attitudes and to develop a love of learning can contribute to subsequent under-achievement (p. 3).

Some gifted children commence school when they are around the age of five just like most other children. This is usually when the problem begins, for by definition, giftedness is “out-of step” development. That is, intellectual, emotional and physical development occur at dissimilar rates such as higher, faster growth which is out of synchronisation with the norm. Hence a five-year-old child may read at a ten-year-old level and understand math at a seven-year-old level. At the same time, he could be socially adept at a four-year-old level (Ziemann, 1999). Gallagher, Harradine & Coleman (1997), in their study of eight hundred and seventy-one academically gifted students from nine districts in North Carolina, found that most gifted children reported that the school curriculum was extremely boring.

Early identification creates an opportunity for the school to create and develop suitable, extensive and challenging long-term programs for gifted children.

Most importantly, gifted children's advanced development usually results in social isolation and emotional sensitivity. Early intervention can create a difference in an educational life course that may be headed for underachievement according to Feiring, Louis, Ukeje, Lewis & Leong (1997). This is particularly the case for children from disadvantaged environments.

It is essential to identify a gifted child early because gifted children realise that they are different from an early age. Unless they understand why they are different, they can think there is something wrong with them (Porter, 1998). In order for gifted children to be able to adjust themselves socially and emotionally, as well as achieve to their fullest potential, their needs have to be met. Gifted students need intellectual challenge. Boring, repetitive, busy-work is very stressful for children who prefer thinking and reasoning activities. Boredom can lead to anger and resentment. Setting personal goals for achievement and success that significantly exceed those of parents or school can also cause stress to these children (Kaplan, 1990).

According to Ting (2001), more and more Singaporean children are undergoing stress and seeking help from psychiatrists at a very young age. Several factors have been outlined as possible causes for this situation. They are:

- a lack of a stable parental marriage and a secure family environment;
- an increase in the divorce rate from 3,772 in 1994 to 5,651 in 1998;
- Singapore's competitive environment;
- the school system being very result-oriented; and
- anxious parents pushing their children to succeed, sometimes even beyond their means.

A recent Straits Times publication reported that in a survey of primary pupils, every third child who was surveyed thought that life was not worth living. It also reported that three primary pupils had committed suicide by jumping off high rise flats. As more and more parents work very hard to pay off their housing and car loans, they have very little time to devote to their children who, in order to be successful, have to contend with an overly-competitive education system. In the report, Singaporeans were urged not to leave everything to the Government, but

instead to start speaking up more in order to help shape the future of Singapore's children (Kit, 2001).

In a face to face session with Prime Minister Goh Chok Tong, several questions were raised in relation to the stressful education system in Singapore. In response to the question, "in a recent survey of Primary 4 to 6 pupils, The Sunday Times found that one in three had, at least once in their lives, thought life was not worth living. Do you agree that the education system is taking a toll on students, especially the average children?" Prime Minister Goh Chok Tong responded by saying that, "no, I think average children are doing all right. It's the gifted children who think they have under-performed and they have let down their parents, who are disappointed, who think of committing suicide once in a while." He further added that, "it's the children with ability whom parents expect to score very high marks" (Ng, 2001, para. 13 - 14).

Hence, not only is it important to identify gifted children, but it is also important to identify them early. As there are more and more young Singaporean children who are undergoing stress and with gifted children most likely to think of suicide, this study will help Policy Makers, teachers and parents of gifted children to gain a better picture of how a group of young gifted children in the Primary 4 gifted program feel about their current education system. Given the research emphasis on early identification and the provision of an appropriate environment and program at an early age, it is important to ascertain how young Singaporean gifted children coped before they were identified as gifted through the Primary 3 Screening test. Is primary 3 too late to identify the gifted? How do teachers identify young gifted children? This study has attempted to find answers to these important questions.

2.3 Current Directions in Early Identification of Gifted Children

Insufficient attention has been given to young gifted children in Singapore in the past. They have not received the same attention from educators, policy-makers, or researchers as older exceptionally able children. There are still many educators who emphasise the importance of socialisation and avoid anything that might appear to pressure young children into high achievement. As giftedness is not easy to identify

in very young children and as very few teachers feel comfortable differentiating their instructions to meet these children's needs in their classroom, most gifted programs commence at age eight or nine when identification is much easier and more educators are sensitive to these children's needs (Cullen & Jipson, cited in Smutny, 1999).

The studies reviewed in this chapter present a strong case for early identification of gifted children and early intervention for very young gifted children.

2.3.1 Parent and Teacher Views on Identification, Early Admission and Programming

Sankar-Deleeuw (1999) explored the issues and concerns of the parents of gifted pre-schoolers and pre-school or kindergarten teachers regarding early identification and programming for giftedness. The study was undertaken using an "author-generated survey entitled *Giftedness in Young Children in Survey*" (Sankar-Deleeuw, 1999, p. 176). The results of the survey revealed that 91% of parents and 78% of teachers believed that giftedness could be identified at an early age. Of the parents surveyed, 74% believed that gifted children should be identified in the pre-school years, in comparison to 50% of the teachers. Additional information requested by parents included:

- resources for further challenge such as materials, toys and methods;
- information on disciplinary techniques such as anger management, dealing with high emotional rages, frustration and independence;
- educational choices such as early testing, learning styles, thought processes, types of intelligence and;
- parenting guidelines on individuality, creativeness, imagination, high energy levels, affective qualities.

Teachers, on the other hand, reported that they required information on balancing different development rates and supportive programming. Even though early identification was recommended and supported and the importance of appropriate environmental support emphasised, only half the surveyed teachers in this study believed that early identification should be carried out. Great dissimilarity existed between parents and teachers surveyed as to the value of the option of early

entry for gifted pre-schoolers. The study revealed that the parents were more likely to see a need for individualisation and acceleration for very bright children than the teachers who would have these children in their classrooms. Both groups acknowledged a number of professionals as beneficial to obtaining information including school staff, support groups, medical staff, psychologists, the media and political lobbyists.

2.3.2 Negative Consequences of Non-Recognition of Young Gifted Children

Gross's (1999) study conveys an urgency to the discussion of early identification and intervention. It also addresses the negative consequences that can occur when schools fail to recognise highly gifted children. The study exposed two main issues. Firstly, teachers' lack of knowledge or awareness of the characteristics and needs of the highly gifted, together with the children's own early awareness that they are different from their age-peers, in addition to their following attempts to hide their ability to gain peer acceptance, which causes notable underachievement among many gifted young children. Secondly, Gross found that an effective combination of nomination by trained or inserviced teachers, parent nomination, and standardised tests of ability and achievement, can form an effective matrix of identification methods for young highly gifted children.

The study also illustrated that even though parents of the highly gifted young children become aware of their children's developmental differences at an early age, parent nomination is very much under-utilised by primary and elementary schools. Moreover, the valuable information provided by parents of their children's early literacy and numeracy is often disregarded or disbelieved.

The study also pointed out that in both America and Australia, the attitudes of the community towards giftedness varies depending on the domain in which it is sited, for physical giftedness, such as talent in sports, is much more readily recognised and tolerated than intellectual giftedness (Tannenbaum & Carrington, cited in Gross, 1999). From an early age, gifted students become aware of this and it strongly affects the attitudes and behaviours they adopt with age-peers.

Almost all the children in Gross's study entered pre-school with the reading skills of children aged seven, eight or older. More than 90% of the highly gifted

children in Gross's study were reading before the age of five. However, the majority of the teachers' comments focused, not on the quality of the children's reading, but on the assumed involvement of the parents. Most teachers tended to presume that the children must have been taught to read early by their parents and many teachers resented this idea. From an early age, highly gifted children are likely to become aware that they are different in many ways from the other children around them. This may occur from their observations of the (seemingly) late development of reading, number or vocabulary in the other children they meet at pre-school or kindergarten; from their awareness of the many ways in which their likes and dislikes vary from those of other children; and from adults' or other children's remarks about their abilities.

2.3.3 Behaviour Problems

Through the experiences of a young second-grader, Weber's (1999) study illustrates, how a gifted child's abilities can easily become hidden and develop into a behaviour problem when the child tunes out due to the demands of the classroom and when neatness takes the lead over originality of thought.

The studies of Gross and Weber underline the importance of investigating ideas that have been firmly fixed in the mind and prejudices that prevent schools from identifying and stimulating young gifted children in the classroom (Smutny, 1999). Weber's (1999) study demonstrates the need for early identification of, and programming for, gifted students. Weber's study briefly discusses several factors that influence the reluctance of classroom teachers to identify young students. Mental models are given as the main reason for this reluctance that in turn influences the attitudes and behaviours that teachers display toward gifted students. Gifted students appear to represent a threat or engender negative attitudes among the very professionals who should be concerned for their welfare (Clark, cited in Weber, 1999).

A descriptive case study is used to describe how a young gifted child was not given individual instruction to help improve weak areas, and how talents were neither acknowledged nor reinforced (Weber, 1999). Weber illustrates how the lack of individual instruction and reinforcement of talents resulted in the child believing that

he was not clever, but very messy and disorganised. The young gifted boy, who felt that it was unfair that he was receiving so many criticisms, warnings and lectures about neatness and organisation when he was trying, eventually gave up. According to Weber, many schools continue to deny early programming and/or intervention, mainly due to a lack of accurate information to guide the decision makers. Leaders such as Lee Iococca, Michael Eisner, Gandhi and Martin Luther King who have made valuable contributions to society, all displayed those characteristics that are often used to deny programming to children (Taylor, cited in Weber, 1999). Weber warns that without changing mental models, there is little hope that there will be an improvement in the identification of young children for gifted programs.

2.3.4 Methods of Identification

Early identification is often the first obstacle that prevents many educators from taking the first step in assisting their gifted students. As physical, social and cognitive development in young children are rapid and uneven, identification requires alternative selection methods. A combination of methods such as parent and teacher nominations, evaluations of school work that could include artistic and creative achievements, as well as academic tasks in class, portfolios shared by parents of children's projects at home and interviews with parents and community are necessary (Smutny, 1999; Clark, 1997; Roedell, Jackson & Robinson, 1980; George, 1992).

Harrison (1999) demonstrated how teachers can identify gifted students based on their drawings. The study outlined the patterns and processes of visual representation that take place during early childhood, for visual representation was found to be a distinctive process for young gifted children.

Drawings were collected from a sample group of 50 children. They ranged in age from twenty months to eight years. The children were divided into three groups. The first group included 7 children who were identified as gifted by their parents and teachers and had been interviewed over a period of two to eight years.

The second group included 14 children nominated as gifted by their parents and educators and who were later identified as gifted by formal testing procedures. These children participated in one to one interview sessions, which created

opportunities to observe both the child's drawing processes and products, and to record the child's discussion of these.

The third group included 29 children who were identified as gifted by parents and educators or through formal testing procedures. Children, parents and educators contributed the annotated drawings of these children. The children involved in the study produced drawings that were advanced and significantly different from those of same aged peers.

The young gifted children's drawings demonstrated an ability to move from the known reality or familiar view of an object. The children involved in the study drew pictures from multiple perspectives. One child involved in the study was largely interested in the appearance of the underside of the bus or the view of the bus from a tall city building. The child also gave explanations such as, "this is what you would see from the front and from the side you would only see one eye" as the child drew vehicles from different perspectives.

According to Harrison, a range of identification methods can be used in conjunction with the drawings of young gifted children as an indication of cognitive precocity and as a concrete display of some of the distinctive characteristics that young gifted children demonstrate. The drawings can also reveal some useful indications of the child's interests and concerns at a particular time. This information can be very useful to families and educators in planning and implementing enrichment experiences that allow for further exploration and investigation of the young gifted child's present interest.

As young gifted children tend to experience heightened sensitivity and emotional vulnerability, these drawings can assist families and educators to become more aware of the affective needs of young gifted children. Drawing is a language of childhood by which young children express and formulate ideas and which deserves adult recognition and support (Harrison, 1999).

Hence, it can be concluded that, "identification procedures lend themselves well to empirical validation and theory grows out of sound research." Therefore, the combination of the two together can be, "used to identify and educate all youth who have special talents, aptitudes, or gifts" (Feldhusen & Jarwan, 1993, p. 248).

2.3.5 Teaching Implications

Young gifted children should be provided with opportunities to seek ideas across various subject areas and experiment with them in different ways to invent theories that they can test within a pattern of growth that extends to new levels (Smutny, 1999).

2.3.6 Parenting Styles

Snowden & Christian (1999) investigated the parenting styles found to be most effective with young gifted children. This study employed quantitative and qualitative methods to determine the role that parents of young gifted children play in the lives of their child. The Parent as a Teacher Inventory (PAAT) was used to gather quantitative and demographic data. The results of the study revealed that the parents involved in the study were dedicated parents and that they practised an authoritative style of parenting. The study demonstrated that the parents:

- nurtured creativity;
- displayed low levels of frustration;
- exercised a suitable amount of flexible control;
- perceived play as a highly important activity;
- displayed confidence in their ability as teachers and;
- conducted themselves as facilitators of the teaching or learning process.

Snowden & Christian stressed that teaching and learning commences in the home and that parents and family play a critical role in the education of the young gifted child.

2.3.7 Families of Gifted Children

Alsop (1999) explored 42 families of 47 children (mean age 6.9 years; mean IQ 150) and reported their experiences across the contexts of family/friendship networks, community resources and school. Data were collected through a survey questionnaire which was specifically developed for the project and was known as the 'Parents of CHIP Experiences Questionnaire (PCEQ)'. A five-point Likert Scale was

used to rate from between two to nine options given within each question. There was also an open-ended category of 'Other' and 'What'. A letter of invitation was sent to 51 families and 42 agreed to take part in the study. The PCEQ questionnaire was then mailed to respondents. The PCEQ was divided into the following sections:

- ***Background:*** Information such as age, birth order, siblings, general ability score, and age of child when tested.
- ***Experiences prior to identification:*** Questions such as assumptions and experiences in relation to professional services such as medical and psychological, infant welfare and social welfare. There were also questions about the support they had expected and received from family and friends and their own perceptions of their child as developmentally different (or "not average").
- ***Experiences since identification:*** Parent experiences with specific educational personnel in addition to their interface with community resources.

The questionnaire was piloted with a small number of families, none of whom became involved in the subsequent data collection. The data were analysed in frequency counts of answers to questions, such as 'what happened', and to 'how many did it happen.' The findings of this study indicated that parents of able children were subjected to negative experiences in all three settings, which confirmed their need for support.

Similarly, in the study reported here, the instruments used to conduct the interviews were specially developed for the purpose of the study and the questionnaire targeted at the students also had the following categories of 'background,' 'experiences prior to identification' and 'experiences since identification' as with Alsop (1999). The study sought to investigate the gifted children's experiences across the contexts of family/friendship networks, community resources and school.

2.3.8 Children's Attitudes

It is important that teachers bear in mind the various attitudes of exceptionally able children when planning an intervention program for them. Some of the common

attitudes of gifted children are that nobody explains to them what gifted is but keeps it a big secret. Some feel that schoolwork is very easy and hence very boring. Some feel that the expectations of parents, teachers and friends are always very high. Others feel that very few understand them and that they often get teased because they are very smart. Some are impressed at what they can do, while others feel isolated and worry about world issues and feel helpless that they cannot do anything to resolve them (Clark 1997; Davis & Rimm 1998; Gallagher, Harradine & Coleman 1997; George 1992; Porter 1998).

According to Kaplan (1990) "many gifted youngsters have a heightened sensitivity to their surroundings, to events, to ideas, and to expectations. Some experience their own high expectations for achievement as a relentless pressure to excel." Such constant striving to live up to their self-expectations or to those of others, "to be first, best, or both can be very stressful" (p.1).

Young gifted children sometimes feel out of place with other children that can create some social problems, especially for profoundly gifted children. It can be difficult for young gifted children to find friends, especially during their preschool years, which can result in loneliness. According to Freedman & Jensen (1999), for most gifted children, "childhood is more pleasurable and more fulfilling because they derive joy from challenge and reward from work." However, at the same time, "it is a childhood that is more painful, more isolated, and more stressful because they do not fit in with their peers and they set high expectations" (p. 1).

According to Kaplan (1990), the constant pressure to excel, "accompanied by other concerns such as feeling different, self-doubt (the "imposter" syndrome), and the need to prove their giftedness" can "result in additional stress" and "drain the energy of gifted students." Parents and teachers of gifted students need to be aware that, "stress occurs even when everything is going well" and that, "youngsters get tired from their constant efforts and may secretly fear that next time they will not be as successful." Parents need to know that even, "vacations may be stressful if students are comfortable only when achieving and succeeding" and "taking time off may make them feel nervous and lacking control" (p. 1).

2.3.9 Conclusion

The research literature points to the importance of any assessment of services for young gifted students, whether it be differentiated instruction in the classroom or a special self-contained program, bearing in mind the children's growth, enthusiasm and excitement for learning (Smutny, 1999).

In addition, teachers and policy makers need to be careful not to exploit highly gifted children. Often it is quite tempting to use a quiet, brilliant child who has already completed most of the academic work of the classroom, as a teacher's assistant or peer tutor. This is common when the class has thirty children, or when the school policies discourage acceleration or ability grouping, or when there is a lack of enrichment materials (Hollingworth, cited in Kearney, 1996).

It is important therefore to investigate policy and practice in relation to preparation of teachers to identify young gifted children in Singapore.

2.4 Overview of the History of Gifted Education in Singapore

In 1984, the Gifted Education Program (GEP) was first implemented in Singapore. According to the Gifted Education Branch (2001d):

It was initiated by the Ministry of Education (MOE) in line with its policy under the New Education System to allow each pupil to learn at his or her own pace. The MOE has a commitment to ensure that the potential of each pupil is recognised, nurtured and developed. It was recognised that there are pupils who are intellectually gifted and that there should be provisions to meet their needs (para. 1).

As outlined by the Gifted Education Branch (2001b):

- In 1981, the late Dr Tay Eng Soon, then Minister of State for Education, led a mission to study the Gifted Education Programs in other countries.
- In 1983, a concept paper was drawn up. It gave the reasons for, and the goals of, a program for gifted children. It was proposed that it would be an enrichment and not an accelerated program. In May, the Special Project Unit, now called the Gifted Education Branch, was formed. One of its main tasks was the selection of pupils and teachers for the GEP. It also trained teachers,

prepared new curriculum materials, implemented the program and monitored its progress.

- In 1984, a pilot project was started in two primary schools: Raffles Girls' Primary School and Rosyth School and in two secondary schools: Raffles Girls' Secondary School and Raffles Institution.
- In 1985, Anglo-Chinese Primary School became the third primary GEP centre.
- In 1988, Anglo-Chinese School (Independent) became the third secondary GEP centre.
- In 1990, Nanyang Primary School became the fourth primary GEP centre.
- In 1996, Dunman High School became the fourth secondary GEP centre and Tao Nan School, the fifth primary GEP centre. This brought the total number of GEP centres to 9, with 5 primary and 4 secondary GEP centres.
- In 1997, Henry Park Primary School became the sixth primary GEP centre.
- In 1998, Catholic High School (Primary) and St. Hilda's Primary School became the seventh and eighth primary GEP centres.
- In 1999, the Chinese High School and Nanyang Girls' High School became the fifth and sixth secondary GEP centres, and Nan Hua Primary School, the ninth primary GEP centre.
- In 2001, the seventh secondary GEP centre was Victoria School.

Thus by 2001, there were nine primary and seven secondary GEP centres in Singapore. The GEP is offered in the following Primary schools in the year 2001:

- Anglo-Chinese School (Primary) (Boys)
- Catholic High School (Primary) (Boys)
- Henry Park Primary School (Co-ed)
- Nan Hwa Primary School (Co-ed)
- Raffles Girls' Primary School (Girls)
- Rosyth School (Co-ed)

- St Hilda's Primary School (Co-ed)
- Tao Nan School (Co-ed)

2.5 Research in Gifted Education in Singapore

2.5.1 Pull-out Gifted Program in Singapore

Lim (1994), investigated a pull-out program in The Chinese High School which is an independent all-boys secondary school in Singapore. The school has Secondary 1 to 4 classes equivalent to grades 7 to 10. The gifted pull-out program was initiated in 1993 and this group of students were the pioneers and were selected when they entered Secondary 1. The study focussed on 26 intellectually gifted students, 12 years of age and who were chosen from a range of tests in intelligence. They were taught by teachers who were specially trained either locally or in the U.S.A. A specially-designed rigorous enrichment program in mathematics, science and computer science was provided.

The 26 gifted students were together during the enrichment subjects only and spent the rest of their school time doing the other seven subjects with their own classmates. This ensured that the gifted students did not limit themselves to their gifted peers but had a chance to interact actively with the other Secondary 1 peers in their own classes. Using an instrument obtained from George Betts when he conducted a workshop in Singapore in 1993, the gifted students wrote a 'Journey to Oneself' as part of their journal writings. One of the sections of this journey involved the students writing a letter to themselves describing their plans for positive lifestyles that ranged from appearance, personality, organisational skills, interests, fulfilment of talent and family to contributing to society. The journal writings, together with interviews, a self-esteem inventory and an open-response questionnaire were used to depict the gifted students' characteristics (Lim, 1994).

The study gave some excerpts of the gifted students' writings which revealed the children's strengths and weaknesses. Some of the children had learnt to be frank, while others had realised what was important to them and the way to organise their interests. The writings not only provided a rich source of information, but also helped

in understanding the students better. It has been noted that as the students continue in the program, there will be more data collected on them and they will be studied as part of a longitudinal project on gifted adolescents (Lim, 1994).

2.5.2 Evaluation of Pull-out Gifted Program in Singapore

When the Chinese High School gifted program was established, evaluation was conducted at both the formative and summative levels. During the early months, formative evaluation took place to improve the program and towards the end of the year, summative evaluation was carried out to determine the overall effectiveness of the program (Lim, 1996; Lim & Tan 1997).

Classroom sessions were observed for the qualitative formative evaluation which recorded the students' responses to the lessons conducted. In both interviews and surveys, students and teachers offered feedback on the lessons, the enrichment activities and on the program as a whole (Lim, 1996; Lim & Tan 1997).

Lim's (1996) study illustrated a scenario from a transcript of a lesson where the teacher on many occasions could not draw out creative responses from the students due to the nature of the questions asked. The study reported that the transcript proved to be a very useful tool for the teachers as they could analyse what was happening and what could have happened. The study also pointed out that Singaporean students in general often tend to keep quiet unless they are absolutely sure of their answers. In the study, it was noticed that even when the students did answer the questions, they gave monosyllabic answers. This study indicated that Singaporean students need more encouragement from their teachers to be more speculative and confident in contributing to class discussions. Although these students were gifted secondary students, they still lacked confidence to participate freely in class discussions.

Feedback from the teachers indicated that the program appeared to be limited by the examination system and that they were not very keen on taking the time to examine and attempt open-ended methods. The teachers reported that they would prefer to stand by the syllabus to prepare the students for examinations. Lim and Tan recommended that the Chinese High school convince the teachers to both cover and extend the syllabus for the enriched subjects, so that the gifted students could be

stretched to their fullest. The study also pointed out the importance of the regular classroom teachers becoming aware of the characteristics and needs of gifted students.

Lim's (1996) study revealed that the gifted students were generally in favour of the pull-out program and that many did not consider themselves to be gifted or special in any way. The study also pointed out that even though gifted students were in favour of challenging work, they were not fond of extra work or difficult problems. The study reported that 25% of the students despised huge amounts of demanding mathematics homework and tests. 20% of the students disliked complex science tests and 11% were not in favour of problematic computer science practicals and assignments. 22% of the students reported that they had difficulty in comprehending the explanations given by the science teacher. The other 9% of the students referred to very achievement-oriented classmates who would try their very best not to lose to their peers. The study also reported that there were five underachievers in the group of 26 students and that they appeared to know what was wrong with themselves.

Hence, quite a comprehensive study has been carried out of secondary gifted students from the Chinese High School in Singapore. However, insufficient attention seems to have been given to young gifted children in Singapore and how these young gifted children and teachers feel about the current program, or how these children and their families coped with their children's giftedness during the very early years. The study reported here sought to bridge that gap by investigating the perceptions of the policy maker, teachers and students of the current Gifted Education Program in Singapore.

2.6 Summary

A review of the literature on gifted education revealed that there are numerous definitions given of giftedness and that the interpretation of giftedness has changed over the years. The literature on gifted education was reviewed to identify the main reasons for early identification; to explore current directions in early identification of gifted children; to gain an understanding of the parent and teacher

views on identification, early admission and programming, to identify the negative consequences of non-recognition of young gifted children such as the behaviour problems that can arise; to identify the various methods of early identification; the teaching implications; parenting styles; families of gifted children and gifted children's attitudes. The chapter also presented the comprehensive study that had been carried out on secondary gifted children in Singapore. The following chapter will illustrate the conceptual framework used in this study.

CHAPTER THREE.

THEORETICAL FRAMEWORK

This research is based on the educational theories of the Russian developmentalist Lev S. Vygotsky (1896-1934).

According to Morelock (1996):

Vygotskian theory is proposed as providing a conceptual framework which can accommodate what has been learned about giftedness and talent since the advent of IQ testing, resolve differences in the field by providing an overarching theoretical synthesis, and orient us toward future directions for research and practice (p. 4).

As stated by Sternberg (1993, p. 200), Vygotsky "made several important contributions to the theory of intelligence, the two most important of which are probably his theory of internalisation and his concept of the zone of proximal development."

Even though Piaget and Vygotsky were both interactionists, they believed that individual intelligence began at essentially opposite points. Piaget's belief was that intelligence matured from the inside and directed itself outward, whereas Vygotsky's belief was that intelligence begins in the social environment and directs itself inward. "The process of the direction of intelligence from the outside to the inside" is referred to as internalization by Vygotsky (Sternberg, 1993, p. 201).

According to Morelock (1996, p. 10), "Vygotsky's brilliance enabled him to see development in its full complexity" and as a consequence, he wrote, "about the shaping of cognition that comes about as a child learns to use socio-culturally-evolved symbols (eg. language) to construct and express meaning. Vygotsky was mainly interested in how children, "through the instruction of more competent others, come to master the physical and psychological "tools" and "signs" of their culture." Vygotsky also wrote about, "the resultant changes in inner experience as this development occurred and the subsequent impact that those changes in inner awareness then had on continued development."

According to Sternberg (1993, p. 201), "Vygotsky's most exciting contribution to the psychology of intelligence is his notion of the zone of proximal

development (or potential) development.” A consideration of a situation posed by Vygotsky would be to take two children whose chronological age is ten years and whose mental age is eight years. If the children had to be characterised as being of the same age, it could probably be done on the face of it. However, this would mean that both children could complete tasks that are characterised by what eight-year-old children can usually do. Considering that the non-intellectual factors are comparable for the two children, “most people would assume that one could make comparable predictions about each of the children” with the use of “intelligence tests.” However, Vygotsky argues that this view is incorrect. If a “teacher-examiner provides guided assistance” to the two children in order to help them solve a set problem, “the first child can deal with problems up to the level of a twelve-year-old.” On the other hand, “the second child can deal with problems up to the level of a nine-year-old”. Thus, Vygotsky suggests that it would not be concluded that the two children are mentally the same since, “the first child has been shown to be better able to profit from instruction than the second child.” Hence, “the difference between mental age twelve and mental age eight, for the first child, and between mental age nine and mental age eight, for the second child, is what Vygotsky refers to as the zone of proximal development.”

Therefore, the instruction given by a more competent person can increase the performance of a child who has the potential. As pointed out by Morelock (1996, p.10), “following Vygotsky’s line of thought, both the cognitive and emotional experiences of gifted children would be qualitatively different from that of their agemates whose minds have not yet been reshaped by the integration of cultural symbols into the flow of thought.” Thus it is essential for gifted children to be with more competent peers and receive instruction from more competent teachers. The experiences that the gifted children receive from school, from their homes and from society, all play an important part in their cognitive, emotional and psychological development. As stated by Sternberg (1993, p. 201), “according to Vygotsky, there may be many gifted children who are not so identified because, although they have the potential, they have yet to realise it.” This could be the situation in Singapore for many children who might have the potential, but without the right environment at home or in school, they may go undetected as gifted.

3.1 Conceptual Framework

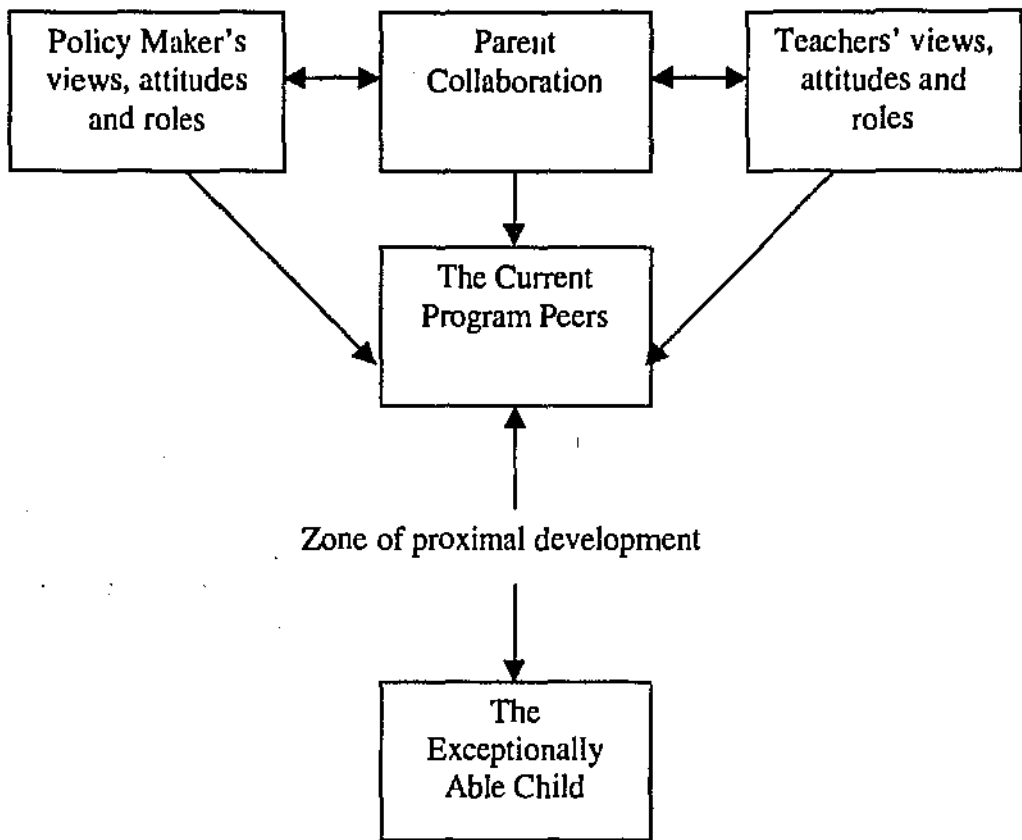


Figure 2. Conceptual framework

Figure 2 illustrates the conceptual framework of this study. All learning that facilitates development takes place within a child's zone of proximal development. Therefore, the policy maker, teachers, parents and other competent peers have an important role to play in guiding gifted children's progress in developing their potential in various talent areas.

3.2 Summary

Vygotsky's theoretical framework was presented as a foundation of this study and it was conceptualised in the framework presented in this chapter. The following chapter will outline the materials and methods employed in this study.

CHAPTER FOUR. MATERIALS AND METHODS

4.1 Target Population

According to Vygotsky (cited in Morelock & Morrison, 1999), all learning that facilitates development takes place within the child's zone of proximal development:

The zone of proximal development ... is the distance between the developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (p. 196).

Vygotsky believed that the role of education was to provide children with challenging activities. He also believed that children could succeed in these challenging activities with sensitive adult guidance. Several researchers also believe that the teacher's role is to either keep activities that are in the children's zones of proximal development or just ahead of their level of independent functioning that is, on the edge of learning (Berk & Winsler, 1995; Feinburg & Mindess, 1994).

Vygotsky's concept of zone of proximal development is consistent with the aims of this research. It is especially helpful in thinking about how the policy maker can plan and implement programs that can help parents and teachers guide children's progress in developing their potential in various talent areas. The four main target groups for the investigation reported here were:

1. Policy Maker;
2. Six teachers who teach in the program and;
3. Six children who receive the program.

4.2 Design

The overall design used in conducting this research was the qualitative descriptive case study methodology using multiple levels. According to Burns

(2000), the qualitative researcher is not concerned with unprejudiced truth, but rather with the truth as the informant sees it. One of the main data-gathering techniques of a qualitative approach is unstructured interviewing. It is essential to note that qualitative methods strive to seize and comprehend individual definitions, descriptions and meanings of events.

In this research, the five characteristics of qualitative research listed by Bogdan & Biklen (1992, p. 29-32) were used in the following manner:

Qualitative research has the natural setting as the direct source of data and the researcher is the key instrument. Participation in, and observation of the behaviours of gifted children in the Gifted Education Program and observations of the various strategies that teachers in the program employ will be very useful to understand the actual experiences of the children and the teachers in the program and their perceptions of the current program. However, shortage of time did not permit direct observations of teachers or children in their natural settings. As suggested by Burns (2000), "open-ended interviewing, on the other hand, is advantageous for obtaining second-hand accounts" (p. 423). Hence, in this study, open-ended interviewing was one of the techniques used to elicit information, beliefs or opinions from the participants.

Qualitative research is descriptive. In this study, the qualitative research is descriptive. As mentioned by Lundsteen (1987) the data gives a "feel" for what the policy maker, teachers and children expressed, did, or suggested they were thinking. It includes written descriptions of how some gifted children felt about their current Gifted Education Program in regards to a particular subject, friends or teachers in the Gifted Education Program.

Qualitative researchers are concerned with process rather than simply with outcomes or products. In this research, formative evaluation helped to find out the selection procedures employed and the perceptions of the students during the selection process.

Qualitative researchers tend to analyse their data inductively. In this research, instead of hypothesising the outcome of the research beforehand, various techniques were employed such as interviews to enable the participants to explain

their experiences, attitudes and perceptions, which might lead to more investigation later on. Data were analysed through many different pieces of collected information. According to Glaser & Strauss (cited in Bogdan & Biklen, 1992, p. 32) this is called "grounded theory".

"Meaning" is an essential concern to the qualitative approach. In this research, the perspectives of the participants, the way they saw their current situation and environment was of great importance. For example, how gifted children perceived their roles with each other, with their classmates, with their teacher and in their school was explored.

According to Merriam (1988), "descriptive means that the end product of a case study is a rich, "thick" description of the phenomenon under study" (p. 11).

As suggested by Miles & Huberman (1994) and Yin (1989) the case study approach is an appropriate methodology for the in-depth study of a small number of cases so as to make analytical generalisations. As indicated by Wilson (1979), case studies make use of prose and literary techniques to describe certain images, examine situations and present evidence of episodes, excerpts, samples and artefacts. Hence, in this research, the case study approach was used to describe the children's experiences and their perceptions in a story-like manner using their own words and drawings.

4.3 Instruments

According to Merriam (1988), in qualitative case study, the researcher is the primary instrument for data collection and analysis. Several researchers have suggested that triangulation or multiple viewpoints on a phenomenon permit greater accuracy of interpretation than any of the viewpoints or data sources considered individually (Guba, 1978; Jick, 1983; Van Maanan, 1983). According to Mills (2000, p. 49), "the strength of qualitative research lies in its triangulation, collecting information in many ways rather than relying solely on one". Thus, to ensure the highest degree of accuracy possible, data for the research reported here were collected by means of semi-structured interviews, guiding interview

schedules/questions, document reviews, audio recording and other supplementary techniques as illustrated in Table 1.

Table 1.

Study Instruments

Purpose	Policymaker	Teachers	Children
To obtain background information of participants	Guided interview schedules (Appendix 4 for Policymaker, Appendix 5 for Teachers and Appendix 6 for Students)		
For gathering data to answer research questions	Semi-structured interviewing using some guiding questions. (Appendix 4.1 for Policymaker, Appendix 5.1 for Teachers and Appendix 6.1 for Children)		
For gathering additional information	<ul style="list-style-type: none"> – Document review – Gifted education documents (eg. Brochures, information booklets, identification procedures program outline, etc.) 	<ul style="list-style-type: none"> – Document review (field notes) – class timetable – syllabus – resources – classroom layout or map 	<ul style="list-style-type: none"> – template for children to construct a 'me' box to express themselves freely
To ensure accuracy of guided interviews	Tape recorder and tapes to record the interviews and verify written records		
For data analysis	Code, categorise and present descriptively		

According to Burns (2000), semi-structured interviewing enables a free-flowing conversation between the researcher and participants as they use language natural to them. The policy-maker, teachers and the children were interviewed individually using a semi-structured interview with some guiding questions to stay in focus. In qualitative methodology, interviews are usually semi-structured and open (Sarantakos, 1993).

Several researchers believe that many gifted children face social and emotional adjustments such as feelings of boredom, isolation, heightened sensitivity and low self esteem (Coleman, 1996; Lim, 1994; Plucker, 1994; Callahan, Cunningham & Plucker, 1994; May, 1994; Sowa, McIntire, May & Bland, 1994). Several studies have encouraged children to write about their feelings in various ways. For example, Lim (1994) used journal writing as a means to encourage some secondary gifted children in Singapore to voice their views and frustrations. The study found that journal writing had an added advantage in, "helping gifted students be aware of and understand their problems" (Lim, 1994, p. 85).

Similarly, in Cupertino's (1998) study, some young second grade gifted children faced some difficulties in expressing themselves freely. Hence, comic book writing and role-playing were used to encourage the children to draw and write about their feelings through a comic character of their choice.

Based on the success of these two studies, in this research young gifted children in the primary four Gifted Education Program in Singapore were given a template of a box on which they were encouraged to share their feelings openly during the interview. The outer face of the box recorded their general feelings, information about themselves, such as their likes and dislikes, their best friends and favourite subjects. The inner face of the box recorded deeper feelings of themselves, such as their secrets and their problems. The children were informed that if they did not feel comfortable in sharing the inner part of the box with the researcher, they could seal it. The children were assured that their real names would not be used and that pseudonyms would be used instead. This box is called the 'me' box as it is about them.

Tape-recording is an appropriate method to use, since qualitative interviews should be open ended and flowing, and the participants should not be forced into a short answer format (Burns 2000; Bogdan & Biklen; 1992). Moreover, the recordings will ensure accuracy in quoting the participants' responses. Hence, in this study, the interviews were audio taped with the permission of the participants and transcripts were provided upon request.

Hence, through triangulation, this study provided detailed stories, experiences and accounts told largely in the participants' own words of their hopes, aspirations and perceptions of the current Gifted Education Program in Singapore.

4.4 Procedure

The design and methodological techniques used in this research relied heavily on qualitative descriptive case study methodology using multiple levels.

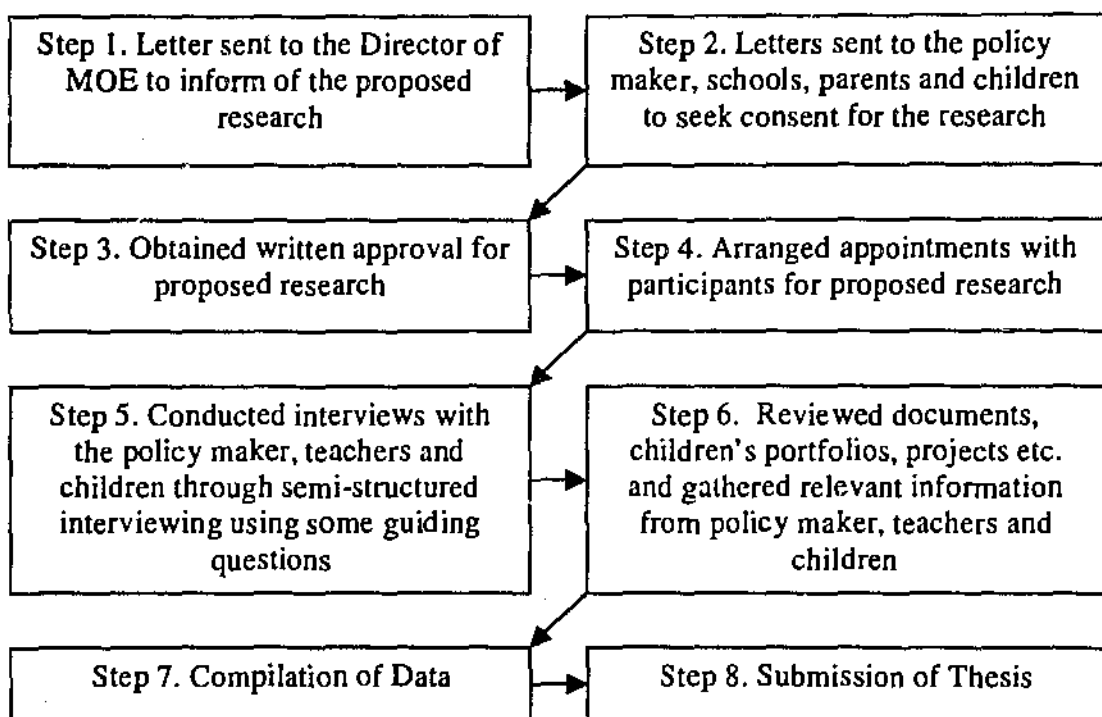


Figure 3. Steps involved in the procedure

Figure 3 presents the sequence of steps involved in conducting this study in a step-by-step fashion. The letters to the Director of Ministry of Education (MOE), the policy maker, schools, parents and children were sent through the post to a representative of the researcher in Singapore, along with a list of the steps to be taken. The representative then sent the various letters to the corresponding departments for approval. Once the various departments had given their approval with the appointment dates, the researcher conducted the interviews in Singapore with the policy maker, teachers and children through semi-structured interviews using some guiding questions. Data evaluation and analysis was carried out by the researcher in Perth prior to thesis writing and submission. The next few steps were

carried out in Perth which involved analysing the data collected and compiling the data. The final step was to refine the thesis and submit it.

Participation in this study was purely on a voluntary basis. The only criterion for the selection of participants was that the teachers who were selected for participation were all teaching primary 4 gifted students.

4.5 Data Analysis

As suggested by Burns (2000), all data obtained were systematically arranged in order to make meaning. They were numbered and dated to facilitate prompt location. Data collected by means of triangulation were coded, categorised and presented in a descriptive case study style (Burns 2000; Bogdan & Biklen 1992; Miles & Huberman 1994).

According to Burns (2000), the first stage in analysing the interview data will be through coding. Hence, with the conclusion of every interview, the information gathered were classified into themes, issues, topics, concepts and propositions.

The interviews conducted were tape recorded to ensure accuracy and participants had the right to validate the tapes upon request. Anecdotal notes were also taken to illustrate the school setting and the resources available. The interviews conducted with the policy maker and teachers, in addition to the analysis of documents such as policy guidelines, selection processes, gifted education brochures and curriculum plans assisted in finding answers to the following research question:

- What provision is made for young Gifted children in Singapore and what are the roles of the Policy Maker and teachers of Gifted Education in Singapore?

The information gathered from the policy maker, teachers and children through interviews and the construction of a 'Me' box by the children, assisted in answering the following question:

- What are the attitudes and opinions of teachers and children of current Gifted Education provision in Singapore?

4.6 Limitations

According to Burns (2000), there are advantages to participant observation, especially since it is one of the central data gathering techniques of qualitative research. However, time constraints did not permit direct observations of teachers or children in their natural settings. Hence, following on the suggestion made by Burns (2000), open-ended interviewing was used to draw out information, beliefs and opinions from the participants.

Following data collection and analysis in Singapore, the researcher returned to Perth. This meant that any follow up interviews to gain further information had to be obtained by electronic mail or telephone rather than in a face-to-face situation, which may have detracted from the richness of data collection.

4.7 Ethical Considerations

Before the commencement of this research, an ethics clearance form was completed and consent obtained from Edith Cowan University's Ethics Committee. The Ministry of Education in Singapore was fully informed of all aspects of the study and written approval was obtained from them. All the participants in this research signed consent forms and took part on a strictly voluntary basis. Confidentiality and protection of their rights was assured and observed in the research.

4.8 Summary

This chapter was divided into seven subsections that listed the target population; described the design of the study; instrumentation; procedure employed; data analysis; the limitations of the study and ethical considerations. The following chapter will present and discuss the results in detail.

CHAPTER FIVE.

RESULTS AND DISCUSSION

This chapter presents and discusses the results gathered during the study. In this chapter the three research questions are addressed separately. The information was obtained through triangulation using the methods of semi-structured interviews, guiding interview schedules/ questions, document reviews, audio recording and other supplementary techniques as recommended by several researchers to ensure accuracy and improve internal validity (Guba, 1978; Jick, 1983; Van Maanan, 1983).

The data obtained provided a systematic framework that assisted the researcher in developing an understanding of the current primary 4 Gifted Education Program in Singapore; provisions available for young Gifted children in Singapore; the roles of the Policy Maker and teachers of Gifted Education in Singapore; and the attitudes and opinions of teachers and children of current Gifted Education provision in Singapore.

Vygotsky's theoretical framework was very useful in designing the conceptual framework for this study. It directly relates to the research questions, which focus on developing the zone of proximal development of the exceptionally able children through more competent peers and instruction from more competent teachers. The experiences that the gifted children receive from school, from their homes and from society, all play an important part in their cognitive, emotional and psychological development. The policy maker's and teachers' views, attitudes and behaviours play an important role in the provision of an efficient Gifted Education Program in Singapore and parent collaboration is desirable to enable a smooth flow of the program. Knowledge of the exceptionally able children's attitudes and opinions of the current Gifted Education provision in Singapore is necessary to determine its effectiveness in meeting the students' individual needs and to give voice to their expectations and opinions in order to determine areas that might need to be further researched on a large scale.

Data were collected from three GEP schools: SCH-A (Co-ed), SCH-B (Girls) and SCH-C (Co-ed). Six teachers and six students agreed to share their experiences, observations and perceptions, and explained issues they faced and problems they

encountered in relation to the current Gifted Education Program in Singapore. It is hoped that these teachers' and students' voices will inform, generate ideas and reassure other gifted children and their parents and teachers about unique needs. As in any case study research, it is up to the readers to determine if any of the ideas presented in this study are generalisable to their children or situation (Haensly, 2001).

The first part of the interview schedule collected background information on the subjects to provide a profile of them (e.g. age, gender, nationality, qualifications, languages spoken). The second part of the interview schedule directly probed the roles of the policy maker and teachers and their perceptions of the current primary 4 gifted education program in Singapore. This chapter also reports the children's experiences before and after identification and their attitudes and perceptions towards the current primary 4 gifted education program in Singapore in their own words from the interviews and from their reflections in their 'Me' boxes (Appendix 8 – Children's 'Me' Boxes). The children were given templates of the 'Me' boxes and were given some ideas as to the possible headings that they could include in their 'Me' boxes. The participants' own words have been used as a means to clearly represent each participant's voice and to highlight the differences and similarities between their beliefs and perceptions of the current GEP.

5.1 Profile of Policy Maker

5.1.1 Background Information

Razak (pseudonym used), 35 years old is a Singaporean who speaks English and Malay. He began his career in gifted education in 1997 with the completion of a Masters in Mathematics. He has been an Assistant Director in the Gifted Education Branch of the Ministry of Education for three years.

5.2 Profile of Teachers

The teachers who taught in the three GEP schools differed in their qualifications and years of teaching experience. To maintain confidentiality and anonymity, each participant is referred to by a code.

5.2.1 Background Information

5.2.1.1 (TA-1) Teacher from SCH-A

TA-1, 38 years old, is a Singaporean who speaks English and Mandarin. She has had 12 years' teaching experience in gifted education with 'A' Levels as her highest educational qualification. She is a Civics and Moral Education (CME) Co-ordinator and has been in that position for a year. Her experience and interest is mainly in social studies, CME and Individualised Research Study (IRS). She had been invited and trained to become a teacher in the GEP program by the Gifted Education Branch, MOE in Singapore.

5.2.1.2 (TA-2) Teacher from SCH-A

TA-2, 44 years old, is a Singaporean who speaks in English and Mandarin. With 2 years' teaching experience in gifted education, she holds a Bachelor of Education degree. TA-2 is a Mother Tongue – Chinese Language teacher and has been in that position for two years. Her experience and interest is mainly in teaching Chinese and providing counselling. She was also invited and trained to become a teacher in the GEP program by the Gifted Education Branch, MOE in Singapore.

5.2.1.3 (TB-3) Teacher from SCH-B

A Singaporean, TB-3 is 29 years' old and speaks English and Mandarin. With 2½ years' teaching experience in gifted education, her highest educational qualification is 'A' Levels. She is a Mother Tongue – Chinese Language teacher and has been in that position for two years. Recommended by her lecturer from the National Institute of Education, TB-3 was interviewed and observed for the position. She also received some training at Hwa Chong Secondary School which lasted for 3 to 4 days. In addition, the Gifted Education Branch also provided training before TB-3 became a teacher in the Gifted Education Program.

5.2.1.4 (TB-4) Teacher from SCH-B

TB-4, 28 years old, is a Singaporean who speaks English, Mandarin and Indonesian. With 1 year and 7 months' teaching experience in gifted education, she holds a Bachelor of Arts degree in Linguistics. An Education Officer, TB-4 has been

in that position for four years. Her experience and interest lie mainly in teaching English. She was interviewed by the Gifted Education Branch, MOE in Singapore and received an initial training of 1 week by the Teachers' Network.

5.2.1.5 (TC-5) Teacher from SCH-C

TC-5, 27 years old, is a Singaporean who speaks in English, Mandarin and Hokkien. With one years' teaching experience in gifted education, she holds a Bachelor's Degree. A Social Studies Teacher, TC-5 has been in that position for four years. Her experience and interest lies mainly in teaching Social Studies, Physical Education, Music and Art. TC-5 was interviewed and observed while teaching by the Gifted Education Branch, MOE in Singapore and also received 1 weeks' initial training by the Teachers' Network.

5.2.1.6 (TC-6) Teacher from SCH-C

TC-6, 29 years old, is a Singaporean who speaks English and Mandarin. With three years' teaching experience in gifted education, she holds a Bachelor's Degree in Mathematics. Her experience and interest lies mainly in Mathematics, which she has taught for 4 years. Recommended by one of her lecturers from NIE, TC-6 was interviewed and trained by the Gifted Education Branch, MOE in Singapore, in addition to receiving 1 weeks' initial training by the Teachers' Network.

Table 2.

Summary Profile of Teachers

Code	Gender	Age	School	Comments
TA-1	Female	38 yrs	SCH-A	12 years' teaching experience in gifted education. Highest educational qualification – 'A' Levels. Civics and Moral Education (CME) Co-ordinator. Interest – social studies, CME and IRS. Joined through invitation.
TA-2	Female	44 yrs	SCH-A	2 years' teaching experience in gifted education. Bachelor of Education degree. Mother Tongue – Chinese Language teacher. Interest – Teaching Chinese and counselling. Joined through invitation.

TB-3	Female	29 yrs	SCH-B	2½ years teaching experience in gifted education. Highest educational qualification – ‘A’ Levels. Mother Tongue – Chinese Language teacher. Recommended by lecturer from National Institute of Education.
TB-4	Female	28 yrs	SCH-B	1 year and 7 months’ teaching experience in gifted education. Bachelor of Arts in Linguistics. Education Officer for four years. Interest – teaching English. Interviewed by the Gifted Education Branch, MOE in Singapore.
TC-5	Female	27 yrs	SCH-C	One years’ teaching experience in gifted education. Bachelor’s Degree. Social Studies Teacher. Interest in Social Studies, Physical Education, Music and Art.
TC-6	Female	29 yrs	SCH-C	Three years’ teaching experience in gifted education. Bachelor’s Degree in Mathematics. Mathematics teacher. Interest – teaching Mathematics. Recommended by one of her lecturers from NIE and was interviewed.

5.3 Profile of Pupils

5.3.1 Background Information

5.3.1.1 (PA-1) Pupil from SCH-A

PA-1, 10 years old, is a Singaporean who speaks Mandarin and English. He was previously in a mainstream school and upon receiving a letter from his principal indicating an offer of a place in the Gifted Education Program, joined this school. His interest is in collecting coins, working on mathematics quizzes and playing chess. He is a member of his school chess club and enjoys working on challenging mathematical sums. His favourite pastime is to surf the net. He elaborated:

“I like to explore the net to gather more information about anything that the teacher asks us to check. The Internet is an ocean with heaps and heaps of information.”

He enjoys reading and loves to read fiction books. He explained during the interview:

"It's like you enter the world of fantasy and you can get away from the real world, away from the facts of the world."

Roald Dahl used to be his favourite author but he mentioned that he did not have any favourite authors now.

Being the second child of his family, PA-1 has an older sister and a younger sister. He mentioned that his parents were separated and that he lives with his mother and his two sisters. His father visits them during the weekends. He appeared to have a close relationship with his older sister and stated:

"My older sister is 15 years old and makes jokes and plays chess with me. She is fun to be with and helps with my schoolwork when I have a problem. She was offered a place in the GEP after her PSLE. She is in the secondary program."

He did not seem to be very fond of his younger sister who is six years old, for when he was questioned about what he disliked most, he stated:

"I hate my younger sister. She is always disturbing me and is very childish. She can be a real nuisance at times when I'm trying to concentrate on my work."

He spoke and wrote of his feelings about the expectations of his families, relatives and friends in relation to his grades and education with much concern during the interview session and in his reflection in the 'Me' box he created. He stated during the interview:

"My mother expects me to do well in all my work and has very high expectations of me. I think it's ok, for she also expects that from my sister."

He wrote in the 'Me' box:

"My mother and sister have high expectations and it is good and bad. Worries me at times because I don't want to disappoint them. They love me a lot."

He also mentioned during the interview:

"My sister says that if I worked hard I could easily be the top student in Singapore. So, I'm working towards that goal."

In addition to his family, friends and teachers have high expectations of him too, as indicated in his writing in the 'Me' box:

"They expect me to be the top student."

He also stated during the interview that his friends believed very strongly that he would *"definitely be one of the top students in Singapore for the PSLE exam."*

When questioned about his feelings of being faced with such high expectations, he said with a smile, *"it is good and bad"* and added:

"Well, it's good in a way for it gives me the drive to work hard and sometimes it's a bit of a pressure that I might disappoint my mother and my sister."

During the interview, he mentioned that his most frightening thought is the *"fear of disappointing his mother"* if he is not *"one of the top ten students of the PSLE"* and it is reflected in his writing in the 'Me' box as well. He has also written that he is worried about losing his mother in an accident.

When questioned if he was attending any tuition or special classes in addition to the GEP, he shook his head and said that presently he did not have any and that he used to go to a private centre that provided mathematics enrichment programs. He elaborated:

"I used to go to the Abacus program when I was in the former school because I was bored in my maths class. Yes, I enjoyed the program."

In his 'Me' box reflections, PA-1 wrote about his strengths as being very good at solving maths quizzes and problems and being good at playing chess. He has also written that he is a fast reader and that he is good at computer programming.

He wrote of his weaknesses in the 'Me' box as:

"Not good at Chinese and Science and must work harder at night too."

He explained during the interview that he felt that he was rather weak in his Chinese and Science subjects and that he should stay up late at night to revise these two subjects. However, he admitted that he got tired easily and could not stay up as late as some of his classmates and considered this to be a weakness.

When selected into the program, PA-1 was excited and could not believe it. He further expressed his feelings when selected as:

"I kept asking myself why I was selected. I don't think that I'm special or different. But I was very happy to learn that there were many projects and challenging programs provided in the GEP. My sister was very helpful when I first joined the program as she was also selected."

He feels that he is very confident after being selected to be in this program. He also feels that it is very challenging and that he has more friends in the program. He acknowledged that he did not have any close friends before in the mainstream and that he used to feel bored. He also mentioned that he did not like the teachers repeating the same stuff. He feels more confident to ask questions in this program and elaborates:

"The teachers understand me better and they have more time for us because it's a small class."

5.3.1.2 (PA-2) Pupil from SCH-A

PA-2, 10 years old is a Singaporean who speaks Mandarin and English. She was offered a place in the Gifted Education Program and transferred to the current school since her previous school did not offer the Gifted Education Program. Her interest is in playing the piano, playing Netball and reading storybooks. An avid reader, she reads up to seven books a week. She elaborates:

"I love to read books, in fact I read books all the time whenever I get the chance, during lunch, dinner, recess, at school, even in the toilet. Sometimes I hide a storybook under my pillow before going to bed and read it when everyone else is sleeping."

When questioned about having to hide her storybooks she explained:

"Oh, it's because my dad says that I spend too much time reading storybooks and that I rush to finish my homework so that I can go back to reading my storybooks."

PA-2 enjoys reading real life stories from the Reader's Digest and mystery books.

She lives with her parents and her older brother and describes her family members as being very supportive of her in everything she does. She further explained:

"Whenever I have a project, my dad teaches me ways to improve it and my mom helps me find useful resources. My brother who is 16

years old helps in the computer area. He helps me to search for information from the Internet. My dad also showed me how to do a presentation using the computer."

She also added that her parents were very proud of her being selected to join the GEP. She explained:

"My parents expected my brother to get into the program too but he was not selected. They were quite disappointed when my brother missed out. They were very happy when I received the offer letter."

She also mentioned that her cousin was also offered a place in the GEP. She found that it helped her to gain an idea of the program even before joining it. Her relatives were very happy for her as well.

When probed about her feelings about the expectations of her family, relatives and friends in relation to her grades and education, she explained that her father was very understanding. She stated:

"My family, relatives and my friends all expect me to do very well in the PSLE exam. They expect me to be one of the top students in Singapore."

This coincides with her reflection in the 'Me' box:

"All my relatives say that I'm very smart. They say that I'm special and that I am really talented. Everyone expects me to do very well in my PSLE exam. My mother usually places very high expectations. My father is more understanding."

She also wrote about her teachers' and friends' expectations of her:

"My teachers in the program are very encouraging. They expect me to work hard and do my best. My friends expect me to be one of the top students in my school."

She shared her feelings about the expectations of her family in the following manner:

"My mother always asks me to revise my work but I always prefer to read story books instead of revising what I have already learnt in class. I think my mother expects a lot more than my father. My father wouldn't mind too much if I didn't do so well in the exam but my mother will be heart broken. I don't want to disappoint her. Yes, it is a pressure especially with my relatives because my mother always says that she won't be able to answer them if I didn't do well."

She elaborated that she liked her friends' high expectations to a certain extent:

"I like it because I don't have to worry that I will be made fun of."

She explained that she did not have any tuition classes and that she would hate the idea of having one. She also added that she tried not to think of the exams as she just dreaded the thought of not doing well and stated that it was the most frightening thought.

She also stated that she disliked homework and staying back after school for meetings most. She felt that it gave her very little time to read books.

When questioned about how she felt about herself, PA-2 stated that her friends thought that she was very friendly and added:

"I am a confident person when I know what the work is about. I feel that I could do something to be more helpful to the society. Everyone has something special about himself or herself. I haven't discovered mine yet."

In her reflection in the 'Me' box, she has written about her self-expectations:

"I expect to do well in all my projects, schoolwork, tests, activities etc."

When selected into the program, PA-2 had mixed emotions. She felt sad to leave some of her former friends from the mainstream school and felt very happy and excited to be offered a place in the GEP. She also confided that she had not believed it initially and that she had suspected that there must have been a mistake.

5.3.1.3 (PB-3) Pupil from SCH-B

PB-3, 9 years and 10 months old, is a Permanent Resident of Singapore, but was born in Taiwan and speaks in Mandarin and English. She joined her current school when she was offered a place in the Gifted Education Program. Her interests lie in reading storybooks. She added:

"I love to read fiction type books and whatever I can get my hands on, I don't have any particular favourite author. It's very relaxing."

She also enjoys tap dancing and modern dancing and she is learning to tap dance at a dancing school close to home.

Her father is an insurance agent and her mother is a lawyer, she spoke of her siblings thus:

"My brother is six years old and my sister is four years old. My brother and my sister are both very irritating and they always disturb me when I'm busy with something. I like to read quietly and they often make a lot of noise around me."

When questioned about her family's support with her schoolwork, PA-2 explained:

"My father and my mother are usually very busy. My father will help with my schoolwork if I have a problem."

PA-2 loves her grandmother a lot and enjoys sharing jokes and discussing stories that she wrote.

When probed about her feelings about the expectations of her family, relatives and friends in relation to her grades and education, she stated:

"My father always says that I should do my best and if I have done my very best then I should not worry about my results, it doesn't matter what I get. The most important thing is that I did my best. But my mother expects me to get very good grades."

She also stated that she had private tuition at home twice a week and that she disliked it, since it gave her very little time to relax after completing her schoolwork and her tuition homework. She had spoken to her mother about her dislike but said that her mother insisted that she should have the private tuition so that she will be able to compete with the other students in the GEP and do well in her exams. She added:

"I think my mother and my grandmother expect a lot from me."

Similar feelings are also reflected in her writings in the 'Me' box.

She had also written that her mother expected her *"to be studying or doing homework all the time"* and that she hated it.

Her most frightening thought was to disappoint her mother if she got low grades in her exams.

She also wrote in her 'Me' box that she was worried about her Chinese and Mathematics exams and about having to sit for such difficult exams in the program when she was going to sit for the same exams as the other mainstream students.

On the whole, she felt that her father, her friends and teachers from the GEP were more understanding and that they did not pressurise her.

She also mentioned that she felt confident when she was *"around older people or with friends from the Gifted Education Program."* She confided that she usually became *"rather quiet"* when she was *"around very young kids."* She explained:

"I feel that they irritate me a lot."

She wrote in her 'Me' box that her strengths were being able to *"dance well"*, being *"very friendly"* and being *"talented in acting."* She wrote that her weakness was being *"poor in Chinese"* and not being good at Mathematics and feels that she cannot understand some of the problems.

She also wrote in her 'Me' box that she expects her friends to *"be loyal and truthful"* and *"be supportive"* and understanding. She wrote that she expected her mother to *"not push"* her and to allow her to do what she wanted to do and not force her wishes.

When selected into the program, PB-3 was overjoyed to learn that of all the students in her former school, she was *"the only one to be selected."* She said that she felt sad to leave some of her former classmates. She said that her mother was very proud of her and that her father was pleased about the offer. She elaborated:

"We went out to eat at a fancy restaurant for dinner. We didn't call my relatives straightaway because none of my cousins got into the program and my mom felt that they might feel jealous about it."

Smiling, she said that she called her grandmother and told her about it when she returned that night and that her grandmother was very proud and happy for her. She explained that her grandmother advised her to take up the offer immediately and that it was *"a once in a life time chance."*

5.3.1.4 (PB-4) Pupil from SCH-B

PB-4, 9 years and 8 months old, is a Singaporean who speaks Mandarin and English. On being offered a place in the Gifted Education Program she joined the current school. Her interests are playing basketball, badminton, drawing and reading detective storybooks. She elaborated:

"I enjoy reading a lot. Love to read detective books because I want to be a detective or join the police force when I grow up. I love to read Caroline Keen's books."

She has a younger sister who is in Nursery and said that she was *"quite annoying"* and that she was always disturbing her when she was trying to study or work quietly. Her mother helped her with schoolwork. Her father encouraged her to play sport. Her favourite pastime was to play basketball with her father during the weekends. She elaborated:

"It's really fun to play with my dad and I always look forward to the weekends to play with him for it gives me some time to be with my dad alone."

She also talked of her feelings about her parents' expectations in relation to her grades and education. She explained that her father never pressurised her in any way and that it was her mother who checked her *"schoolwork, test papers and report cards."* She stated that her mother followed her grades carefully to monitor her performance in the GEP. She elaborated:

"My mother wants me to go to one of the top schools in Singapore for my secondary education. I have tuition at home three times a week for maths, science and Chinese. My mother says that it is a must and that there's no question about it. I find that it takes up most of my time and that I have too much work to do from school and from tuition. I wish that I didn't have tuitions. Sometimes I wish that my mother did not have such high expectations because I don't want to disappoint her if I didn't get into one of the top schools in Singapore after PSLE."

Similar feelings to the ones mentioned above have been reflected in her 'Me' box writings that her father *"says to take it easy"* and that her mother wants her to *"do well for PSLE."*

She expressed that some of her friends from the mainstream school also expect her to be one of the top students in Singapore for PSLE. She shared:

"I wish that they wouldn't say that because I don't like such high expectations from them and I just want them to treat me in the same manner as they treat my other friends."

She talked of her friends' expectations from the GEP:

"My friends in the program don't place such high expectations on me, they seem to understand how I feel for I think they are also going through the same problem with their family and friends."

Similar feelings have been expressed of her friends' expectations from both the mainstream school and the GEP.

Her most frightening thought was *"not getting into one of the top secondary schools after PSLE."* She explained:

"That would really crush my mother's hopes and she'll be so disappointed. I don't know how I'll be able to face her if I failed to get into one of the top schools. She's sure that I will do very well in my PSLE."

The writings in her 'Me' box reveal that she is concerned that her *"parents should be proud"* of her, that the *"world should be a safer place to live"* and that *"there should be no crimes in the world."*

She has also written that her strengths are that she is an *"easy-going, confident and friendly"* person and that she is *"good at many games, drawing and writing poems."*

Her writings are similar to those mentioned during the interview:

"I feel very confident about myself especially after being selected into this program. Yes, I think I am special in the sense that I can draw very well and can write poems."

Her writings reveal that her weakness is being *"very poor"* in Chinese and not being able to *"remember all the characters"*, not liking it and finding it to be *"too boring."* She also mentioned during the interview that she disliked *"Chinese homework"* because it was *"too time consuming"* and that it made her feel very tired. She also feels that it is a waste of time and elaborates:

"There are so many other useful things that I could be doing. My mother makes the situation worse by forcing me to complete it first."

She was ecstatic when her mother informed her of being offered a place in the GEP and thought that her mother was kidding when she first told her. Her father was also surprised. She elaborated:

"My mother received a phone call first from my principal before receiving the offer letter so I couldn't believe it till I actually saw the offer letter and was full of joy when I saw it. My grandmother was very happy and she always expects a lot from me."

With a big smile, PB-4 said that her proud father who had promised a video camera before the selection test bought one for her after receiving the news of her offer.

5.3.1.5 (PC-5) Pupil from SCH-C

PC-5, 10 years old, is a Singaporean who speaks Mandarin, Hokkien and English. He was offered a place in the Gifted Education Program and did not have to transfer to a different school since his school offered the Gifted Education Program. His interests are in playing computer games, chess and reading books. A very good chess player, he has taken part in many chess competitions. He elaborated that playing chess was his favourite pastime:

"I enjoy playing chess the most, especially when I have just finished my homework. It gives me a kind of refreshing feeling."

Fantasy books interest him most. He explained:

"I like fantasy books as there are many unexpected events in the story and as you read more, you can't seem to stop. My favourite author is J.K. Rowling, the author of 'Harry Potter'."

He has a four-year-old brother and feels that *"he is not very fun to be with."* He elaborated:

"He is always crying and likes to disturb me all the time."

His parents provided assistance with his schoolwork only when necessary and they always made sure that he had made an attempt to do it himself first on his own. His parents never pressurised him in any way and they always encouraged him to make an attempt first and to try his best. He spoke of his friends:

"They are ok. They are fun to be with and we seldom talk about exams."

He was deeply concerned about various *"problems around the world"*, the PSLE being an *"unfair system"*, exams and Chinese being *"very difficult"* as reflected in his writing in the 'Me' box. He also mentioned during the interview that his most frightening thought was that the world was *"coming to an end soon with global warming, flooding, ozone depletion, pollution and famine."*

He dislikes homework given during Chinese classes and explained:

"I feel that it is a total waste of time when you could do something more useful. It's very difficult to remember all the characters and very time consuming. We don't need it really to solve the many problems of the world. I find it rather irritating at times."

When questioned about how he felt about himself, PC-5 stated:

"Well, I know I am not so good at my studies, but I feel that even if I don't do well in my studies, it doesn't mean that I'm stupid. I think I know a lot of stuff but don't know how to do well in the exams. I know a lot more than many of my previous classmates and friends and feel confident about myself for that."

He believes very strongly that he is special since he is very good at playing chess and because he does not lose his temper easily.

He also wrote in his 'Me' box that he is *"confident, friendly, easy-going, popular and proud."* His writing also reveals that he expects himself to be *"loyal to the country"* and to *"strive for the best and to believe that he can do it."*

He confided that when he first learnt that he had been offered a place in the GEP he was *"really shocked and couldn't believe it."* He admitted that he *"didn't feel sad or nervous"* since he *"did not have to move to a new school"* as his school offered the GEP.

5.3.1.6 (PC-6) Pupil from SCH-C

PC-6, 10 years old, is a Singaporean who speaks Mandarin and English. He was offered a place in the Gifted Education Program and transferred to the current school, as his previous school did not offer the Gifted Education Program. His interests are in cycling, collecting stamps, roller-blading and reading books. He enjoys reading various magazines such as *"The Times Magazine, Reader's Digest and the National Geographic."*

He elaborates:

"It helps to explore the world and learn about new inventions and learn more about the latest world issues."

Cycling was his favourite pastime:

"It feels like escaping all the troubles of the world when I cycle fast with the wind blowing."

PC-6 lives with his parents and two sisters, one older and one younger. He admits that he prefers to hang around with his older sister who is 15 years old and says that *"she is cool."* He further explained:

"She is very good with the computers. She wants to be a programmer. She was also selected for the Gifted Education Program when she did her PSLE."

His sister also assisted him with his schoolwork when he encountered any difficulties. He talked of his younger sister:

"I play with my younger sister sometimes who is 5 years old, but she can be very irritating at times. She always messes my things up and likes to draw on my work that makes me so mad. She is very babyish."

When probed about his feelings about the expectations of his family, relatives and friends in relation to his grades and education, PC-6 appeared to worry that his parents and relatives had very high expectations of him. He also mentioned:

"My sister did very well when she sat for the PSLE exam and I must do just as well or even better than how she did. My parents say that I can do it and that I have the capacity to do it. I don't know, sometimes I get very worried that I might let them all down."

Despite his dislike of tuition, he receives tuition for Chinese and Science. He elaborated:

"I don't like it but it can't be helped. My parents feel that I need it so that I will be able to do well in the exams."

Similarly, he wrote in his 'Me' box that everyone had high expectations of him and that he was worried about it. He also wrote that he did not want to disappoint his parents.

He felt that his friends in the program were the only ones who actually understood him. He also added:

"My friends don't put any pressure on me by having high expectations."

He confided that the most frightening thought for him was the thought of failing his exams and also stated that he disliked exams and feared forgetting everything he had learnt just before sitting for an exam.

He feels that he *"is a little proud."* He explained:

"I don't like to hang around with my former classmates. I feel like I don't have much to say to them and they say that I am very proud since I joined this program."

He also believes that he is special and elaborated:

"I'm special in that I can remember things very easily compared to my classmates in this program and my former classmates. I can remember almost exactly what the teacher said during the class. I feel confident about myself. But I can't remember all the Chinese characters and that's why I find it very difficult to cope in my Chinese class."

He also admitted being surprised when receiving the offer to join the GEP:

"I couldn't believe it and was thrilled at the thought of going into the gifted program even though I didn't really know a lot about it."

He also explained that his parents were very proud of him and that they shared the good news with all their friends and relatives immediately. He also added:

"I received many calls congratulating me from friends and relatives."

He wrote in the 'Me' box that he was confident, friendly, hardworking, an avid reader and that he knew how to play many games. He also wrote that he was weak in Chinese and that he did not like the music classes in the GEP as he found them boring.

He also wrote about his expectations of others:

"Parents should not pressurise their children. Teachers should always be facilitators and not robots."

His writings revealed that he felt that his role as a classmate was *"to be helpful and understanding towards others' feelings."* He also wrote that his role in school was to *"uphold his school's name."* He felt that his role at home was to make

his “*parents proud of him*” and his role in the society was to “*make it a better place.*”

Table 2.

Summary Profile of Pupils

Code	Gender	Age	School	Comments
PA-1	Male	10 yrs	SCH-A	From a different school. Interests – collecting coins, working on mathematics quizzes; reading books and playing chess. Member of school chess club.
PA-2	Female	10 yrs	SCH-A	From a different school. Interest – playing the piano, netball and reading storybooks.
PB-3	Female	9 yrs 10 mths	SCH-B	From a different school. Interest – reading storybooks, tap dancing and modern dancing.
PB-4	Female	9 yrs 8 mths	SCH-B	From a different school. Interest – playing basketball, badminton, drawing and reading detective storybooks.
PC-5	Male	10 yrs	SCH-C	Same school. Interest – playing computer games, chess and reading books.
PC-6	Male	10 yrs	SCH-C	From a different school. Interest – cycling, collecting stamps, roller-blading and reading books.

In summary, five of the six students had previously attended mainstream schools and all were pleased and excited to be chosen to be included in the GEP. Whilst there was variation in their interests, all mentioned the enjoyment they derived from reading. Five of the six students found younger children irritating and all felt under pressure to excel academically due to the high expectations of their parents and/or others.

5.4 Summary of the six students’ ‘Me’ box writings

The writings of the children were categorised into the following groups: Experiences prior to identification (Figure 4), Experiences since Identification

(Figure 5), Expectations of students by others (Figure 6), Self Expectations (Figure 7), Students' expectations of their teachers', their parents' and their friends' roles (Figure 8), Self Image: Strengths and Weaknesses (Figure 9) and Concerns (Figure 10).

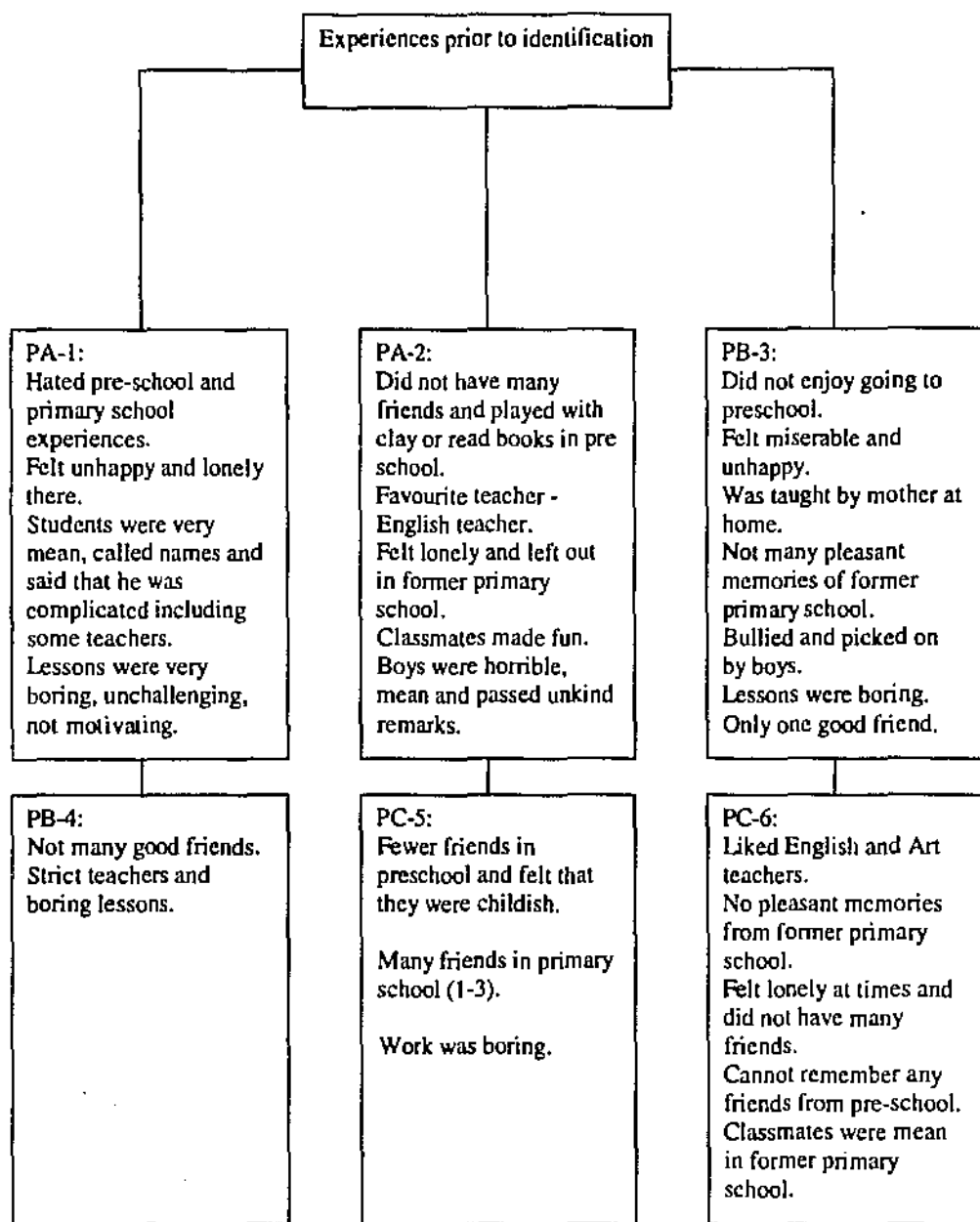


Figure 4. 'Me' Boxes - Experiences prior to identification

5.4.1 Summary of Experiences prior to Identification

It may be seen from Figure 4 that all students reported having disliked their previous schools and feeling unhappy or lonely. Four of the six students also mentioned finding the schoolwork boring.

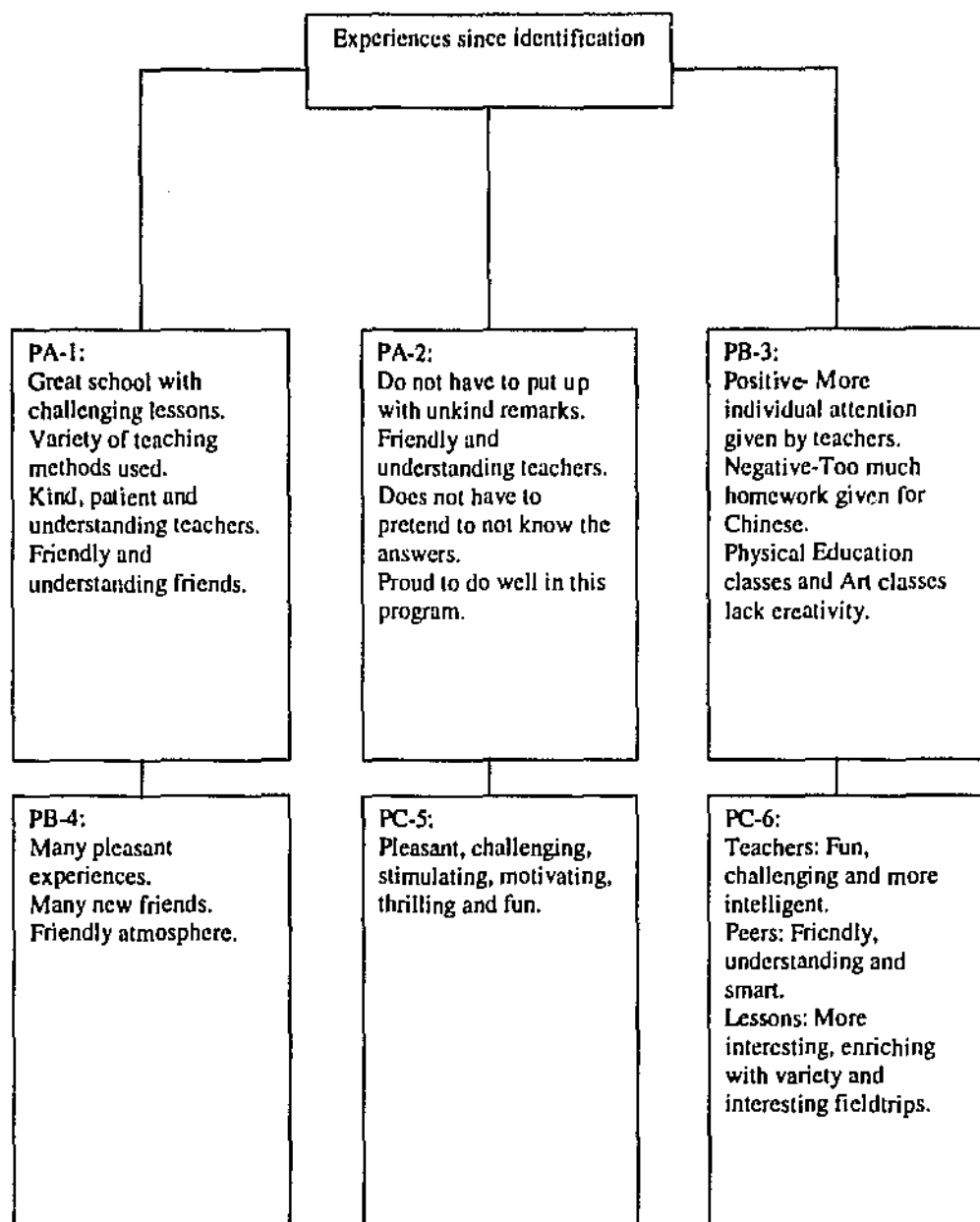


Figure 5. 'Me' Boxes - Experiences since identification

5.4.2 Summary of Experiences since Identification

In contrast to their previous schooling all the students now expressed satisfaction with school, citing new friends, interesting lessons and understanding teachers among reasons for their satisfaction.

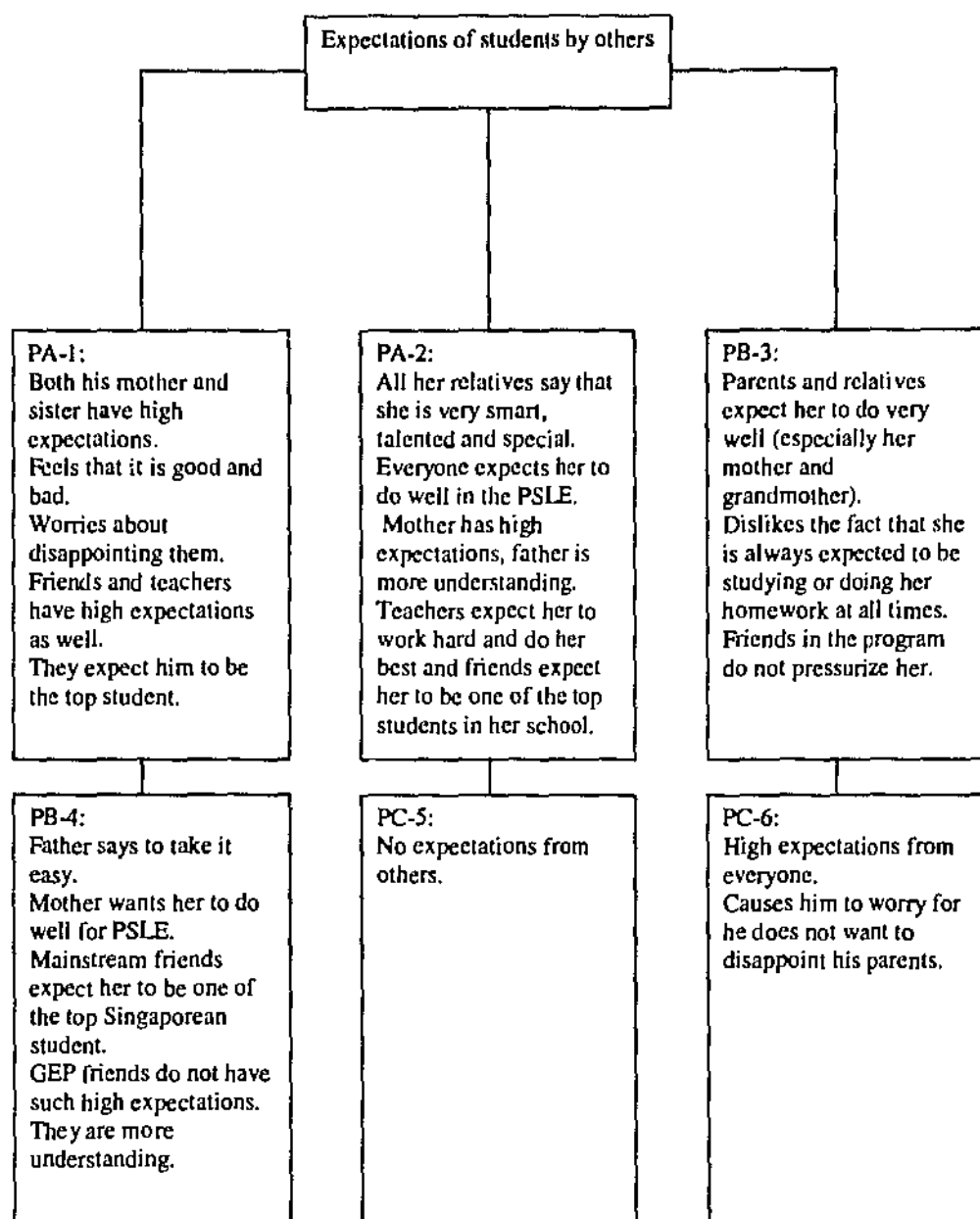


Figure 6. 'Me' Boxes - Expectations of students by others

5.4.3 Summary Expectations of Students by others

A major concern for all the students except for PC-5 appears to be that that they are constantly surrounded by high expectations from others which causes them to worry about not meeting their parents' expectations (Figure 6).

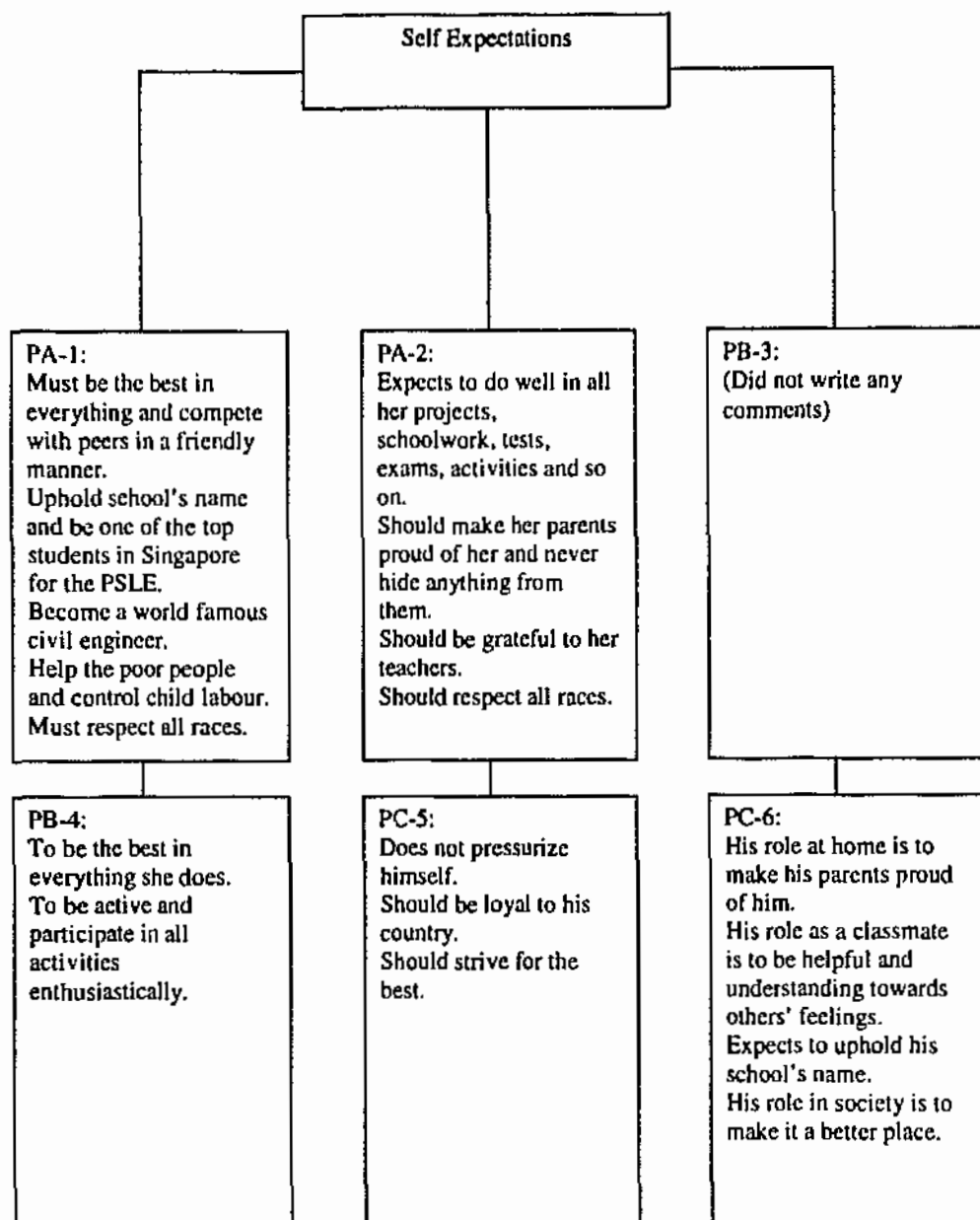


Figure 7. 'Me' Boxes - Self Expectations

5.4.4 Summary of Self Expectations

Four of the six students appear to set high standards for themselves and expect to be the best in everything they do. It may be seen from Figure 7 that the students expect themselves to respect all races, uphold the school's name and ensure that their parents are always proud of them.

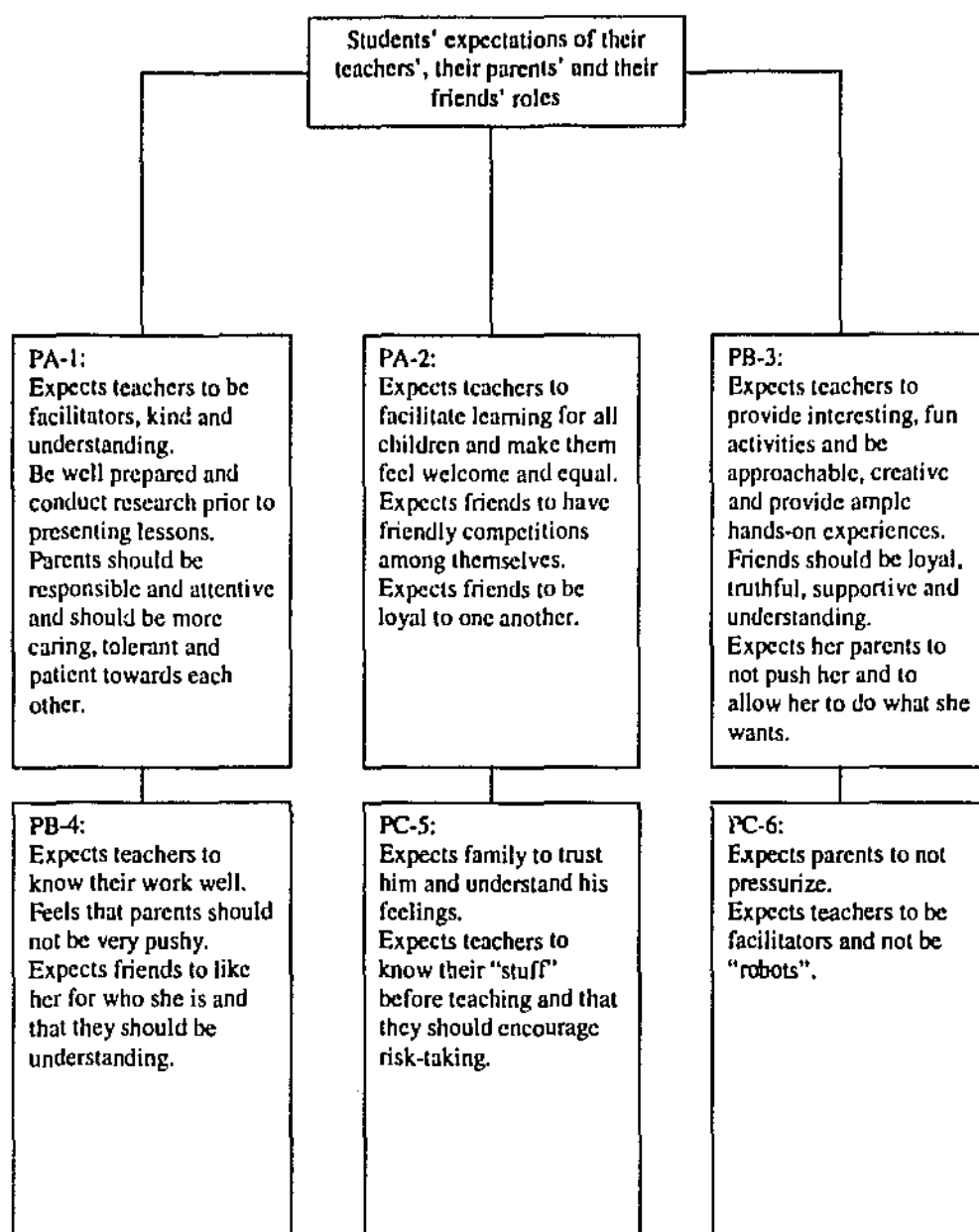


Figure 8. 'Me' Boxes - Students' Expectations of their teachers', their parents' and their friends' roles

5.4.5 Summary of Students' Expectations of their Teachers', their Parents' and their Friends' Roles

Being a facilitator and being confident and well prepared appears to be the main expectations of the students of their teachers. The students also appear to expect teachers to possess other qualities such as being kind, understanding, fair in their treatment of children, interesting in their teaching methods and approachable. Three of the students appear to feel that parents should not push them their children too

much. Friends are expected by most students to be loyal, supportive, understanding and to engage in friendly competitions.

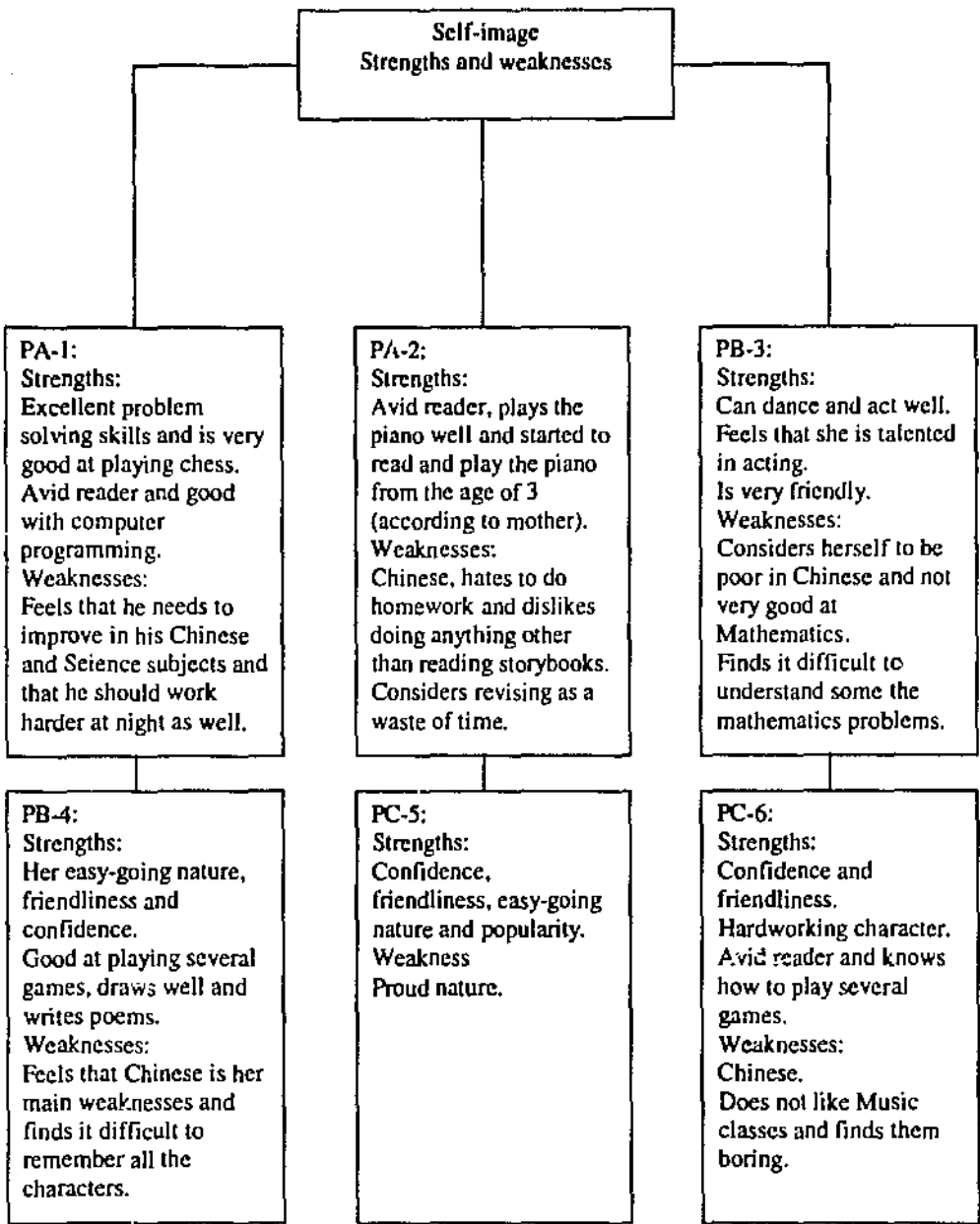


Figure 9. 'Me' Boxes - Self-image: Strengths and Weaknesses

5.4.6 Summary of Self-image: Strengths and Weaknesses

All the students appear to be aware of their strengths and being avid readers appear to be one of their main strengths for three of the students and it appears that for five of the students, Chinese seems to be their main weakness.

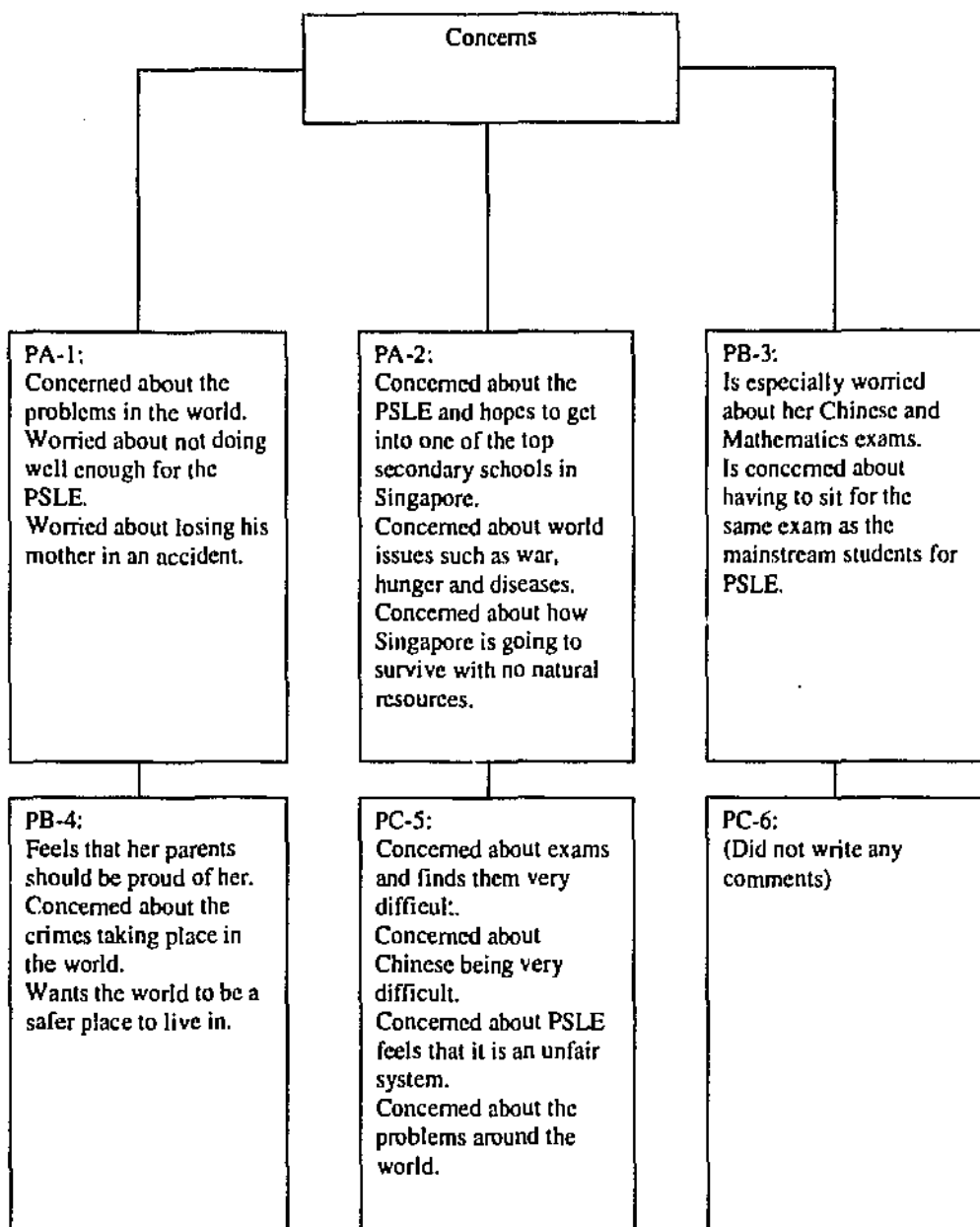


Figure 10. 'Me' Boxes – Concerns

5.4.7 Summary of Concerns

The major concern of these gifted informants is doing well in the PSLE. Four of the six students also expressed concern over world issues (Figure 10).

5.5 Research Question 1: What Provision is made for Young Gifted Children in Singapore?

5.5.1 Gifted Children's Primary Needs

Essentially gifted children have two primary needs. The first need is to feel comfortable with themselves and with the differences that concurrently open potential and create complexity. The second need is to develop their full potential. Gifted children have a strong internal drive to develop their individual abilities (Tolan, 1990). Several researchers indicate that a vast majority of gifted children receive most of their education in regular classroom settings (Cox, Daniel & Boston, 1985). Unfortunately, research also tells us that often instruction provided in the regular classroom setting does not cater to the gifted children's individual and unique needs (Archambault, Westberg, Brown, Hallmark, Zhang, & Emmons 1993; Cox, Daniel, & Boston 1985; Westberg, Archambault, Dobyns, & Salvin 1993). Therefore, leaving gifted students in regular settings is putting them at risk of failing to achieve their full potential (Parke, 1992). Indeed, research reveals that several gifted students' achievements are far below their expected level in the regular classroom setting (Ness & Latessa, 1979).

Hence, the challenge for policy makers, educators and parents of gifted children in Singapore is twofold. Firstly, Singapore's gifted and talented young children must have a full service education as suggested by Parke (1992) if they are expected to flourish in the way in which they are capable. Secondly, it is essential that Singapore's young gifted children be provided with educational experiences that are challenging and appropriate to their unique individual needs and achievement levels. Hence, it is very important to investigate the current provisions available for young gifted children in Singapore.

5.5.2 Significance

It is essential that parents and educators work together in order to achieve healthy emotional as well as intellectual growth of the gifted child. However, in order for these children to fully benefit from this combined effort, it is important that

parents be aware of the provision made for young gifted children in Singapore and the expectations and goals of the Gifted Education Program.

Indeed, as mentioned earlier in chapter one, it is essential that there be congruence of expectations so that children are given appropriate guidance, to maximise their chances of fulfilling their potential (Webb, 1999). Hence, it is essential to assist parents of gifted children to better understand the current GEP in Singapore and the availability of programs for gifted children who are too young to sit for the Screening Test in Primary 3, so as to be able to cater to their gifted children's needs. It is also important to provide an overview of the provision made for young gifted children for anyone who is interested in the gifted education field for future research. Data gathered from the MOE documents as well as from the interview session with the policy maker are the main sources that inform the following discussion.

5.5.3 Provision for Gifted Children (10 Years Old)

In its aim to nurture talent and maximise the potential of all children, the Ministry of Education in Singapore has introduced special programs such as the Gifted Education Program, the Humanities Award, the Science Research Program, the Music Elective Program, the Art Elective Program and the Language Elective Program (Public Affairs Branch, n.d.).

5.5.3.1 Aims of the GEP

The main aim of the Gifted Education Program is to meet the intellectual needs of gifted children and to provide an enriched curriculum within a stimulating and interactive environment (Gifted Education Branch, 2001e). Intellectually gifted children are identified by the Gifted Education Branch (GE Branch) of the Ministry of Education (MOE) as "having high potential, either in general intellectual ability or in having a specific aptitude" (Ministry of Education, 1999, p.8).

During the interview, Razak, the Assistant Director in the GE Branch, explained that there were six main goals of the Gifted Education Program and that they were divided into two groups of *"meeting pupils' cognitive needs"* and *"meeting pupils' affective needs."*

As indicated by Razak, according to the Ministry of Education (1999), the six goals of the GEP are:

Meeting pupils' cognitive needs

- To develop higher-level thinking processes commensurate with the child's intellectual ability.
- To nurture creative productivity.
- To develop skills, processes and attitudes for self-directed lifelong learning.

Meeting pupils' affective needs

- To enhance the child's self-concept and aspirations for self-fulfilment.
- To encourage the development of a social conscience and a sense of commitment to contribute to society.
- To develop leadership qualities (p. 4).

5.5.3.2 GEP catering for the children's social/emotional development

Razak also mentioned that the GEP aims for the whole development of gifted children and that it nurtures them in their personal, social and moral development through the Affective Education Programme. He further explained:

"The Affective Education Programme comprises Civics and Moral Education, Pastoral Care and the Community Involvement Programme."

The Ministry of Education (1999) states that the main themes covered in the Civics and Moral Education curriculum are:

- self-understanding and self-improvement,
- interpersonal relationships,
- group-building,
- learning skills, and
- social and cultural awareness (p. 18).

According to Razak, in primary schools, Pastoral Care is led by the teacher in the form of small group discussions. Specific needs of the children are addressed during these sessions.

The Ministry of Education (1999) states that the Community Involvement Program aims to nurture in children a social consciousness and a sense of commitment to the community. It allows the children to:

- understand the needs of the community and the country,
- respond to some of the needs by engaging in voluntary service and
- contribute to the well-being of others (p. 19).

Razak also mentioned:

"In the GEP, leadership goals or qualities are established when the older GEP children lead younger GEP children and in the program there is a lot of community involvement such as cleaning beaches, gardening, serving the community and finding the needs of the community."

5.5.3.3 Enrichment

Razak explained that enrichment was the chosen means of differentiating the curriculum for the gifted children. The GEP Enrichment Model is drawn from the conceptual models of a number of gifted programs that are offered around the world (Gifted Education Branch, 2001f). As mentioned by the Ministry of Education (1999), enrichment is accomplished through curriculum differentiation in four areas: content, process, product and learning environment (Appendix 9 - The Enrichment Model).

The mainstream school curriculum is the commencing point for the GEP enrichment of gifted children. This is to ensure that the primary GEP students sit the PSLE at the end of Primary 6 so as to facilitate students' re-entry into the mainstream if they withdrew from the GEP (Gifted Education Branch, 2001e).

Content. When questioned about the content area, Razak mentioned that the children were given a more *"advanced content"* in order to provide a *"basis for more challenging enrichment and not for its own sake."* He further elaborated on the content area by adding:

"Since gifted children are generally very fast learners, they can grasp facts, concepts and information within a shorter period. This allows for topics to be explored in greater depth and breadth. More advanced topics are covered whenever it is needed. Pupils are allowed to explore freely, to choose topics that interest them. The children are encouraged to investigate real-life problems."

Process. Razak explained that the process referred to the *"various teaching strategies to cater to different learning styles"*, *"the questions asked"* and the *"gifted children's learning activities."* He also added that the young gifted children were provided with several opportunities to engage in research work and that in primary 4 the students concentrated mainly on developing skills needed to conduct Individualised Research Study (IRS). He also added:

"GEP develops higher level thinking skills and provides various opportunities for discovery learning, to learn through inquiry. Provides several small group activities which emphasise teamwork and collaboration. It also provides lots of hands-on experiences."

When questioned about the Individualised Research Study, he explained:

"IRS is based on the children's own passion, interest. Need not be curriculum based. The aim of the IRS is to teach the children investigative skills so that they can be independent learners and it nurtures creativity."

The IRS is a basis of the enriched curriculum for all the Primary 4 and 5 gifted children in the Gifted Education Program. It is based on the students' personal interests and it offers several opportunities for students to pursue a self-chosen real-life problem. According to Razak, *"constant feedback and guidance is provided to small groups of students by a teacher-mentor."* The students do not receive grades on their report books for their IRS projects. However, outstanding projects are recognised by their schools in several ways such as through certificates of merit and prize awards (Gifted Education Branch, 2001g).

Razak also mentioned that young gifted children who displayed interest and capacity to pursue projects at advanced levels of involvement were provided with ample opportunities to work with professionals. He also stated that projects were jointly organised by the GE Branch and tertiary institutions or professional organisations in Singapore.

Product. Razak elaborated that the product referred to the *"outcome of learning"* and that it was not just a summary of the students' learning and said:

"The program allows freedom for creative expression. Pupils can present their work in many forms such as reports, dramas, poems, computer simulations etc."

The learning environment. In order to facilitate content, process and product modifications, the learning environment or the physical and psychological setting has to be modified (Ministry of Education, 1999). Razak illustrated the learning environment as:

"The teacher is a facilitator rather than an instructor and the environment is more learner-centred. It allows more risk-taking, more opportunities for pupils to talk and interact among themselves or to

the whole class and there are many opportunities for out-of-school experience such as field trips, camps and community involvement programs."

5.5.3.4 Curriculum

The GEP curriculum strongly emphasises "creativity and higher level thinking skills"; it is more "intellectually challenging" and is more "learner-centred"; and teaching is more "individualised" (Ministry of Education, 1999, p.10).

5.5.3.5 Enrichment programs

The young gifted children in Singapore are provided with several enrichment activities and special programs. Various mentorship attachments, camps and other out-of-class/out-of-school activities are organised by the Gifted Education Branch to assist young gifted children in reaching their full potential. The main aim of these activities is to develop self-directed, lifelong and independent learners (Gifted Education Branch, 2001h).

5.5.3.6 Innovation program

One of the science programs available to the young gifted children is called the Innovation Program and its main aim is to promote and nurture interest in innovation among the young gifted children (Gifted Education Branch, 2001i).

The GE Branch also introduced another program called the GEP Computer Program for young gifted children in 1998. The main objective of this program is to provide gifted students with the basic tools of IT in order for them to be skilled in the use of computers when they reach secondary schools (Gifted Education Branch, 2001j).

5.5.4 Provision for Gifted Children (0 to 9 Years Old)

When questioned as to whether there was any special provision made for children who displayed characteristics of giftedness before the screening test, Razak replied:

"Ministry of Education has no involvement in identification before this age. Teachers and principals do the guiding. National University Hospital has private psychologists and they do assessments. There is

no provision but advice is given to parents. MOE has no involvement in early identification. They can receive help from private schools who have advanced reading and mathematics classes. Private schools and centres provide various programs."

Parents, who suspect that their child has knowledge and ability far beyond those of other children of the same age, may send the child for an IQ test. The Department of Social Work and Psychology in the National University of Singapore conduct such tests for a fee and parents may also contact the Association for Gifted Children for more information (Gifted Education Branch, 2001a).

In addition to that, an organisation called Mensa compiles and provides information for gifted children globally and in Singapore. Several Mensa groups offer scholarships for gifted students. Membership is open to those who have obtained a score within the upper two percent of the general population on an approved intelligence test, which has been properly administered and supervised. No other qualification provides eligibility for membership (Mensa Singapore, 2001a). Mensa organises monthly meetings with pre-arranged themes, guest speakers and fun activities for parents and gifted children as well. It also conducts presentations, which address various issues such as recognising giftedness in children, societal expectations of giftedness, handling giftedness in order for the gifted children to reach their full potential and issues that parents and teachers have to bear in mind to avoid pitfalls.

The Morris Allen Study Centres have four main branches in Singapore and they are as follows:

- Jurong East Branch
- Katong Branch
- Newton Branch and
- Tampines Branch

These centres specialise in providing English enrichment courses for children from nursery to secondary level whose ages range from 3 to 16 years. The principal of the Morris Allen Study Centres has a keen interest in identifying and developing the gifted child and conducts lectures throughout Singapore on the education and parenting of gifted children (Mensa Singapore, 2001b).

The Morris Allen Study Centres only recruit fully qualified teachers with experience. The expatriate teachers from Australia, the UK, New Zealand and the United States of America provide an added advantage to the learning environment with their vast experience and knowledge. They use the Government Syllabus as a guideline for planning English lessons (Morris Allen Study Centres, 2001a). Their lessons are conducted with various interesting materials and resources from England, Australia and New Zealand. Their extension classes are targeted at the bright children and they have more problem solving and creative thinking activities than in mainstream schools (Morris Allen Study Centres, 2001b).

5.5.5 Conclusion

The GEP is committed to catering for the intellectual needs of the selected young gifted students and participation in the program is not meant to promote feelings of superiority among the gifted students (Ministry of Education, 1999). At the end of Primary 3 all the students are invited to sit for the Primary 3 Screening Tests and the top 1% (about 500 students) are selected to join the GEP at Primary 4 (Ministry of Education, 1999). The GEP is put into practice in nine selected mainstream primary schools which provide the young gifted students with several opportunities to interact with peers from the mainstream classes in extra curricular activities, in addition to participating in the “rich non-curricular” programs offered by these GEP schools (Ministry of Education, 1999, p. 25). This is to ensure that the selected young gifted students have ample opportunities to interact with the other mainstream students, as well in various other activities organised by the school.

The selected young gifted students receive a differentiated curriculum in self-contained classes with each class averaging 25 gifted students. An important component of the GEP is to develop the young gifted children’s social awareness and to create a sense of responsibility among the gifted students. The GE Branch of the MOE only provides enrichment programs for the selected intellectually gifted children from Primary 4 to Secondary 4. Various activities and programs such as the Innovation Program, Computer Program, field trips, assignments and project works referred to as IRS are part of the GEP curriculum. The activities are all designed to

meet the interests and abilities of the young gifted students (Ministry of Education, 1999).

The GE Branch of the MOE does not cater for a child who is too young to sit for the Primary 3 Screening Test. As the GEP is not offered before Primary 4 in any government or government-aided school in Singapore, parents have to search for other means to provide for their gifted children if they suspect that they are gifted. As mentioned previously, the NUS, the Association for Gifted Children, Mensa and the Morris Allen Study Centres are some of the other organisations in Singapore which provide some form of assistance such as counselling, advice, IQ tests or enrichment classes to parents and their gifted children who are too young to sit the Primary 3 Screening Test. Various seminars, workshops and conferences are frequently organised by these organisations in regard to parenting young gifted children in the very early years and informing the public of the resources and teaching methods used around the world to teach young gifted students effectively.

5.6 Research Question 2:

What are the Roles of the Policy Maker and Teachers of Gifted Education in Singapore?

5.6.1 Success of Gifted Education Programs

Over the years, a growing number of studies have begun to focus on the characteristics and roles of teachers of gifted students (Bishop, 1968; Whitlock & DuCette, 1989; Hultgren & Seeley, 1982; Maker, 1975). Research indicates that gifted students possess unique learning and social-emotional needs and that they require a differentiated curriculum with an optimal learning environment (Chan, 2001; George, 1992; Webb, 1999; Kaplan, 1990). Teachers have a significant influence on this learning environment and as a result, they play a critical role in the success of gifted programs (Renzulli, 1968). Hence, "the characteristics, skills, knowledge and training of teachers" in the GEP should be the main concern of all the policy makers of the GEP in Singapore, in order for it to be a successful program for gifted students (Chan, 2001, p. 197).

5.6.2 Significance

It is essential that policy makers and teachers work together in order to provide an optimal learning environment for the gifted children. Given the fundamental nature of the relationship between the teacher and student in the nurturing of giftedness, perhaps a solution to the challenge of matching the appropriate teacher to the right child could be carried out by first examining the teacher's own beliefs about learning, teaching and their role in the GEP.

This will provide an idea of how GEP teachers in Singapore perceive their roles and if they coincide with the expectations of the MOE of Singapore and the gifted students. It will assist current GEP teachers to gain an idea of some of the critical teaching qualities expected of teachers of gifted children indicated in research on gifted education. It will also assist anyone else who might be interested in the profession of teaching gifted children to gain an idea of the critical teaching qualities and roles expected by the MOE of Singapore, teachers of GEP, gifted students of GEP and the research evidence. It is essential that there be congruence of expectations of teachers' roles among policy makers, teachers and gifted children. Data gathered from the MOE documents as well as from the interview sessions with the policy maker and the six GEP teachers and the six GEP children's 'Me' box writings are the main sources that inform the following discussion.

5.6.3 Policy Maker's Role

The GE Branch consists of a Deputy Director, two Assistant Directors and a team of specialist officers. The main role of the Branch is to plan, implement and monitor the GEP and to work together with the schools to accomplish the goals of the GEP (Ministry of Education, 1999). The main duties of the team are to:

- identify and select intellectually gifted students for the GEP,
- design a differentiated curriculum,
- coordinate special programs for intellectually gifted students,
- select and provide appropriate training to GEP teachers,
- monitor and implement the program in the nine primary schools, and

- evaluate and conduct research on the GEP (Ministry of Education, 1999).
(Appendix 9 - The Organisation Chart for the GE Branch).

The GEP is offered in nine selected primary schools in Singapore to nurture the intellectually gifted children. During the interview, Razak reported that he oversaw the implementation of the GEP in the nine primary GEP schools. His main role was to:

“Implement and monitor the primary GEP; implement the enriched curriculum; supervise research; evaluate, construct and administer tests to select pupils for the GEP.”

The roles of the policy maker and the teachers play a crucial part in providing an efficient program for the intellectually gifted children in Singapore. As mentioned by the policy maker during the interview, his main role includes overseeing a group of officers and curriculum specialists; as well as recruiting and training teachers.

Following on Vygotsky’s line of thinking as mentioned previously in chapter 3, gifted students are rapid learners who reap benefits when they work with more capable peers and receive instruction from more capable adults and the “only good learning is that which is in advance of development” (Vygotsky, 1978 cited in Bruner, 1985, p. 24). Policy makers and teachers need to provide a differentiated curriculum for gifted children to meet their individual social and academic needs.

5.6.3.1 Differentiated curriculum

A crucial role of the GEP teacher is to provide a differentiated curriculum, thus accommodating learning differences in gifted children. It is an important task of the GEP teacher to identify students’ strengths and use appropriate strategies to address a variety of abilities, preferences and styles (McAdamis, 2000). This will enable whole group discussions, small group discussions and various enriched experiences for individual students (Tomlinson, 1999).

5.6.3.2 Benefits of differentiated instruction

According to several researchers, teachers who provide a differentiated curriculum and instruction view gifted students as individuals with their own skills, interests, styles and talents (Reis, Kaplan, Tomlinson, Westberg, Callahan, & Cooper, 1998). They also emphasise that by providing a differentiated curriculum

and instruction the teachers are able to eliminate or streamline content that students already know and are able to replace it with more challenging material and activities which are based on the gifted students' interests, individual academic ability and needs (Reis, Kaplan, Tomlinson, Westberg, Callahan, & Cooper, 1998).

One of the main purposes of the study reported here was to investigate the provisions available for young gifted children in Singapore and the perceptions and attitudes of the teachers and gifted students of the current GEP to determine if it was meeting the children's needs. In order to answer the question of whether the current GEP in Singapore was actually serving the gifted children appropriately, during the interview session with the policy maker, the researcher enquired about the provisions that were in place in Singapore to take advantage of the young gifted children's talents and gifts and how the policy maker knew if they were being implemented properly in the GEP schools.

As suggested by Delisle (2001), in order to answer the question of how appropriate the current GEP is in serving the gifted children's needs appropriately, investigating the provisions available for young gifted children and describing the provisions is insufficient. A much more informed question is necessary and it would be in what ways the program actually accommodated the young gifted children's needs. As emphasised by Delisle (2001), gifted education is not a place so it is not sufficient to simply ask if a program exists for young gifted children. The much more complex question of whether or not the program challenges the young gifted children, no matter the limit or extent of their gifts, and whether they are encouraged to pursue their full potential, is essential.

Hence, in order to answer this complex question, an understanding of the policy maker's role was crucial to determine how he ensured that the GEP's goals and objectives were actually accommodated and achieved in the nine primary GEP schools.

5.6.3.3 Recruitment of teachers

During the interview, the policy maker explained that the MOE, in its efforts to ensure that the GEP teachers were capable of accommodating and achieving the

GEP's goals and objectives, had a strict selection procedure for recruiting teachers into the GEP. Razak explained:

"Teachers for the GEP are selected through interviews. Officers will do the selection. Teachers who are interested write to be considered. They should have strong content knowledge of the subject that they are to teach and the belief in Gifted Education and that the gifted children need a different type of education."

5.6.3.4 Qualifications, expectations and training

For the primary teachers, the minimum qualifications are the General Certificate of Education, 'A' Level Certificate and a Diploma-in-Education (Ministry of Education, 1999). An invitation is sent out to teachers who are identified from the mainstream to attend an interview with subject officers from the GE Branch. Interested teachers may also apply directly to the GE Branch. Teachers who reveal the prerequisite qualities for teaching gifted children are then observed teaching children in their own class by two officers from the Branch. The Staff Placement Branch will then post successful candidates to the GEP schools. The teacher is then committed to the program for at least a year (Ministry of Education, 1999).

The policy maker further elaborated that to ensure that the selected teachers were meeting the GEP's objectives and goals, a group of officials regularly conducted observations of GEP teachers teaching gifted children in their classrooms so as to:

"Monitor the effectiveness of their teaching strategies, questioning, responding skills to students' questions, their tolerance for the gifted children's curiosity and patience with gifted children."

Razak also explained:

"MOE conducted regular workshops, training sessions, conferences and seminars to allow the GEP teachers to share their experiences, gain new ideas from other GEP teachers in Singapore and to be aware of the latest development in research related to the gifted education field."

He stated that during the meetings, the GEP teachers were encouraged to share how they achieved the learning outcomes and the challenges they faced in meeting the students' needs.

The GEP teachers who have taught in the program for 3 years or more, need to complete these two courses: Curriculum Differentiation for the Gifted and Affective Education for the Gifted (Gifted Education Branch, 2001k).

According to Razak:

"New GEP teachers need to attend a Foundation Course in Gifted Education. Both current and new teachers attend the GEP Annual Conference in November where the curriculum is reviewed and the following year's curriculum is planned. Training is provided by the officers from the Branch and sometimes by overseas consultants. Some teachers are sent overseas on attachments to attend conferences or courses in the field of gifted education."

Thus, the GE Branch at the MOE of Singapore is committed to ensure that the GEP accommodates the young gifted children's needs. The Branch takes various measures to ensure that the program challenges the young gifted children, regardless of the limit or extent of their gifts. The Branch constantly monitors the teachers to ensure that the gifted children are encouraged to pursue their full potential.

GEP teachers work closely and meet with the subject officers in the GE Branch at the MOE of Singapore throughout the year to discuss both curriculum and teaching approaches. Gifted education specialists and overseas consultants conduct workshops locally and at times GEP teachers are also sent overseas for courses in the field of gifted education or on attachment to gifted education programs (Ministry of Education, 1999).

In line with answering the research question posed in the study reported here, the researcher not only wanted to gain an understanding of the teacher's roles, but also to find out how they achieved the GEP's goals and objectives. The researcher wanted to investigate what activities and curriculum options were provided by the teachers to accommodate the young gifted children's intellectual curiosity, depth and complex thinking and in what ways the gifted children were encouraged and given the freedom to interact with one another.

5.6.4 Teachers' Role

5.6.4.1 Teaching characteristics that maximise young gifted children's learning

Researchers have for years been attempting to determine the characteristics and skills needed for effective teachers of gifted students (Gowan & Bruch, 1967; Sisk, 1975; Maker, 1975; Seeley, 1979; Feldhusen, 1985; Cross & Dobbs, 1987; Rogers, 1989; Christian, Denzin, & Betts, 1993). Teacher education and training programs have been specially designed to ensure the development of the necessary teaching characteristics and skills (Sisk, 1975; Maker, 1975; Lindsey, 1980; Rogers, 1989).

Perhaps the key question to ask is what is being taught, and to whom, instead of what makes a good teacher of gifted children. There is no fixed formula for successful teaching of gifted children. The whole context in which the teaching takes place, for example, the classrooms, the schools, the gifted children and the beliefs and values of the GEP teachers have to be investigated. As suggested by Csikszentmihalyi, Rathunde & Whalen (1993), rather than making a judgement that this is what makes a gifted teacher, the development of the gifted child within the area(s) of talent and the kinds of teaching characteristics that are likely to maximise the "chance factor" have to be looked at:

unless a person enjoys the pursuit of knowledge, learning will remain a tool to be set aside as soon as it is no longer needed. Therefore we cannot expect our children to become truly educated until we ensure that teachers know not only how to provide information but also to spark the joy of learning (p. 195).

Teachers of young gifted children are generally responsible for one or more of the roles outlined below, according to Jenkins-Friedman & others (1984):

- Organising enrichment activities for young gifted students;
- Collecting information about various teaching practices, useful and challenging materials and resources for gifted youngsters;
- Coordinating curricular activities at a pace and level which is suitable for the young gifted children in their classroom;

- Providing counselling and advice to gifted students, their parents, and other mainstream teachers about underachievement, and special problems associated with giftedness such as frustration due to lack of challenge; and
- Fostering student attitudes of excellence, creativity, productivity, and leadership qualities.

Hence, the researcher wanted to investigate if the GEP teachers who were involved in the study reported here fulfilled one or more of the roles outlined by researchers in gifted education and the MOE of Singapore.

5.6.4.2 Role as advocates of lifelong learning

All the teachers expressed their belief that they could not teach the young gifted children successfully without the training they received from the GE Branch and that the on-going training they received in the program was a high priority. They recognised the importance of advocating lifelong learning among the gifted students; were committed to sharing useful information they gathered with the students and their parents; and were always on the look out for workshops and seminars related to the gifted education field.

TA-1 stated that she had attended several presentations of various guest speakers organised by Mensa and strongly believed that a successful teacher was one who believed in lifelong learning she further elaborated:

TA-1:

"I have found it very useful to attend such conferences and seminars on gifted education for it helps to determine if I have been successful and effective in my teaching methods with the gifted students in my class. I believe in lifelong learning and that as a GEP teacher, I should always be on the look out for recent research on gifted children."

TA-2 stated that her primary aim in teaching gifted students was to "advocate life long learning" and indicated that it was one of the GEP teacher's key roles. She also stated that as a GEP teacher it was her "duty to be constantly on the look out for good books on gifted children in the market and spread any useful information". She also mentioned that she maintained "a list of useful resources for parents" seeking advice on parenting young gifted children.

TB-3 believed that as a GEP teacher, it was essential that she received on-going training and that it was *"part of the profession of teaching to be continuously updating oneself on the latest developments in gifted education"* and that the GEP teacher should *"believe in life long learning."*

With her belief in life long learning, TB-4 made sure that the students and parents were *"aware of upcoming workshops and seminars conducted by organisations such as the NUS and Mensa"* and also encouraged them to attend these programs and activities conducted to *"gain a better perspective of gifted children and to take part in the highly challenging and enriched activities"* organised for young gifted children.

TC-5 reflected that the on-going seminars and conferences she attended regularly through the MOE of Singapore were *"useful to a certain extent"* and that during the parent teacher meetings she made certain to encourage parents to conduct research on gifted education and to *"familiarise themselves with the various ways"* by which they could help their gifted children. She also stated that she recommended *"some useful website addresses"* which had *"links to a vast amount of resources around the world on educating and parenting"* gifted children.

TC-6 explained that she advocated life long learning among the young gifted students in her class by *"displaying the brochures, reference notes, books, magazines in a corner of the classroom."* that she had gathered during the on-going seminars, conferences and courses she had attended. She stated that she encouraged the children to *"go and choose material to read and browse when they pleased"* and mentioned that she *"regularly updated the information displayed in the corner."*

According to Roeper (1995), gifted children should be educated for life instead of being educated for success:

The education for life model differs radically from the education for success model. The latter grows out of the belief that people are defined by their skills, that they are what they do and how well they do it. The former, by contrast, stems from the belief that people are defined by their unique selves. Emphasis is placed on the growth of the self and mastery of the environment (p. 111).

Roeper also believed in providing an environment that would allow children to grow up with minimum hostility; that giftedness was a process rather than a

product; and that often gifted children were looked upon exclusively in terms of what they could potentially produce, instead of who they were in the totality of their being (Morelock, 1996). Hence, it is essential that policy makers and teachers take care not to exploit gifted children (Kearney, 1996).

According to the Ministry of Education (1999) the GEP teacher's main role is:

- to be a facilitator rather than an instructor;
- to make the classroom environment more learner-centred; and
- to encourage the gifted children to talk, interact among themselves in pairs or in groups and provide greater physical mobility within the classroom.

During the interview, the policy maker was questioned about his expectations of the GEP teachers and about their role as teachers of gifted children. Razak stated that he believed that the GEP teachers should be facilitators rather than mere instructors. He also emphasised that the GEP teachers should be confident and have a passion and ability to teach gifted children. Razak elaborated:

"Their role is also to relate well to gifted children, to observe carefully at all times if the gifted children are facing any problems at home or with their schoolwork and provide advice and assistance. They should be patient and encourage all the children to participate. They should be able to arouse curiosity and be creative in their presentations of lessons. They should also be enthusiastic and flexible. They should be ready to differentiate their lessons to suit their children's abilities and needs."

According to the Gifted Education Branch (2001k), the GEP teachers should possess the necessary skills to facilitate learning among their gifted pupils and to meet their needs.

5.6.4.3 Role as facilitators

During the interview, all the teachers explained that their main role was to be a facilitator in the classroom with counselling a secondary role. This coincides with the expectations of the MOE and policy maker as well as the recommendations from the research.

According to TA-1 it was important to *"meet the other gifted primary school teachers regularly for discussions"* so as to be able to *"compare learning experiences provided to gifted children by other teachers to gain new ideas and teaching strategies"* to accommodate and facilitate the gifted children's learning needs in her class as a social studies teacher.

Being a facilitator and being attentive to the gifted students' needs were significant to TA-2, TC-5 and TC-6 and they also added that they always tried *"to be a good role model to the children."*

Flexibility in conducting lessons to suit the children's needs was important to TB-3 who acknowledged that initially she used to read from textbooks and that eventually she *"moved from a traditional classroom teacher to a facilitator now."*

Facilitating the *"learning of English Language to the gifted pupils in the primary 4 GEP"* was TB-4's primary concern. She achieved this by carefully planning and providing various learning experiences and creating learning centres in the classroom. She also mentioned that she was very careful to bear in mind that her lessons and activities *"always revolved around the children's interests"* and provided various opportunities to indulge in creative writing.

All the teachers interviewed held similar perceptions of their role as a facilitator. Teachers who view themselves as facilitators of learning can discover that they have a great deal to offer young gifted children. Also, as facilitators, teachers provide the appropriate conditions for learning, thereby assisting the gifted students to develop the pre requisite skills to learn, comprehend and interpret an appropriately differentiated curriculum (Sturt, 1999). As the GEP teacher's role requires them to possess skills in both their subject areas and in the management of learning, the researcher wanted to find out if the GEP teachers felt that knowing the subject content well was an essential component of being an effective GEP teacher.

5.6.4.4 Confidence in subject content area with a passion for teaching

Flowing from their experiences with teaching gifted children, all the teachers agreed that, in order to be a successful GEP teacher, it was essential that they be confident of their subject content. In addition, four of the six teachers (TA-1, TA-2, TB-4, TC-5) added that they should also have a passion for teaching:

TA-1:

"Knowing the subject well and being well prepared is very important to be a successful GEP teacher. Not only that, it is essential that the GEP teacher has a strong passion for teaching these children in the first place and one who believes in the provision of such a program."

TA-2:

"I believe that a successful GEP teacher is one who is really familiar with the subject that he or she is teaching and that he or she should really love teaching that subject."

TB-4:

"I have a strong passion for teaching English Language and I believe that in order to be a successful GEP teacher, I need to have the passion and be really familiar with the subject content so as to enable a smooth flow during the lessons."

TC-5:

"I believe that there are many qualities needed to make a GEP teacher successful. Firstly, it is important to know the subject that you are teaching well. Secondly, the teacher must love the teaching profession and have a passion to teach gifted children. Thirdly, the teacher must believe in the children and be aware of their individual needs and abilities while preparing and presenting lessons."

TB-3 and TC-6 added that a resource search was necessary to ensure adequate content knowledge in order to be a successful teacher in the program.

TB-3:

"Being well prepared in advance and researching the subject content well boosts confidence and helps to focus on the individual students' responses and answer their questions clearly."

TC-6:

"Being confident in the subject content is very helpful to make a lesson successful. The gifted students notice immediately when a teacher lacks confidence and is not well prepared in terms of the subject content. Hence, it is important to do a thorough research on the lesson well in advance to be a successful GEP teacher."

Thus all the teachers appear to agree that being well prepared, knowing the subject content well, and researching the subject area are important aspects of being a successful GEP teacher. In addition, four of the six teachers (TA-1, TA-2, TB-4 and

TC-5) feel that having a passion to teach gifted children is another important factor that makes their career a success.

5.6.4.5 Fostering socialisation

During the interview, the researcher also wanted to investigate the ways in which GEP teachers enabled the gifted children to interact with one another. All the teachers emphasised the importance of encouraging social interaction among gifted students and indicated that it was one of the most essential roles of the GEP teacher.

TA-1 explained that she felt successful in achieving the aims of her lessons when the gifted children in her class *"interacted with each other during lessons and brainstormed together on various solutions and ideas in a co-operative and friendly manner."* She also mentioned that she encouraged children to *"not readily accept other students' ideas but to have the confidence to speak out and challenge their ideas if they strongly believed in it."* She stated that *"social interaction"* was always one of her *"prime goals during lesson planning"*. She held a strong belief that as a GEP teacher it was her duty to encourage social interaction among the gifted students at all times *"for otherwise they could very easily forget themselves in their independent thoughts."*

TA-2 elaborated on how she fostered socialisation among the gifted students in her class by stating that she always tried to *"encourage the students to organise birthday parties, getting them to take on different roles to put together the party and working co-operatively in group projects, organising Assembly Items such as a Talent Show, Musical Show and so on."* She further added that she usually *"let the children discuss among themselves and organise events as a team."* She also felt developing socialisation among gifted students was necessary to *"develop the students' leadership skills, confidence and problem solving skills."*

Other than providing opportunities for social interaction during class work, through *"group discussions, group presentations and group projects"*, TB-3 also *"organised camping and excursions regularly to encourage social interaction among the gifted students"* which she believed was one of the critical roles of the GEP teacher.

TB-4 also added that she ensured that there were several opportunities for social interaction during class-work and also encouraged the gifted students to interact with other mainstream students as well. She elaborated:

"When I'm on duty during recess, I encourage the children to interact with not only the GEP classmates but also with the other mainstream students from the school. I think that as a teacher I should always try to involve the gifted children in a lot of activities that encourage social interaction among the students. Social interaction is truly an important aspect that has to be encouraged constantly by the GEP teacher. The gifted students should get a chance to mix along with the other students in the school and learn to respect and be aware of other races."

For TC-5 and TC-6 socialisation was the principal focus of all their lessons and they stated that they ensured that the gifted students had various opportunities to interact among themselves. TC-5 explained that on top of the various activities provided in class to encourage social interaction, she also organised *"excursions and extra-curricular activities."* She also held a strong belief that this was an important aspect of her role as a GEP teacher. She stated, *"some gifted students tend to stick to themselves and need extra encouragement and group activities to get them to interact with the other students."* TC-6 explained that social interaction was crucial for:

"In real-life situations the gifted students would always have to work cooperatively with others and realise that not everyone would be the same as them. They should learn to respect one another's cultural differences and differing abilities."

According to the Ministry of Education (1999), the GEP teachers are expected to include out-of-school experiences such as field trips and camps in the curriculum. All the teachers interviewed in the study reported here mentioned that they included several experiences in class and out-of-school experiences to foster socialisation among the gifted students. MOE also states that the GEP teacher has freedom in conducting lessons. All the teachers admitted using that freedom to modify the curriculum to meet individual student needs and maintained that they also inspired the students to be flexible and to accept changes readily and easily.

Being flexible, and the ability to change readily to accommodate the gifted students' needs and interests, is another common belief held by the GEP teachers. They also explained that they tried to model a flexible attitude for their students. TA-

2 stated during the interview that she always tried to instil the feeling that *"when change was necessary, it was not the end of the world."* The teachers also made use of the freedom given to them by the MOE to modify the curriculum and conduct lessons outside the classroom when necessary, such as in the garden or in the library, to suit the learning context.

The teachers mentioned that they carried out lessons outside the classroom at times to suit the curriculum and arouse the children's intellectual curiosity. For example, TA-1 reported that she had conducted lessons in a garden outside the Museum in Singapore, so as to reinforce and brainstorm what the children had just observed in the museum for their social studies project. TB-4 mentioned that she had conducted various English lessons at different places outside her classroom such as reading poetry in the school garden, writing scripts in the drama room and comparing different styles of writing in the library.

The Ministry of Education (1999) states that the GEP teacher should be patient and tolerant of curiosity in young gifted children. Based on the information gathered from the interview sessions with the six teachers reported in the study, all the teachers recognised the importance of being patient and also emphasised being creative, enthusiastic and animated during the presentation of lessons. They also mentioned that they should be tolerant of the gifted children's curiosity and provide various challenging activities, with sufficient class time to brainstorm and discuss various strategies and solutions to a single problem.

Another expectation of the GEP teachers by MOE is that they are always responsible for the general welfare and well-being of the gifted children in their classrooms and that they ensure that the specific needs of the gifted children are addressed (Ministry of Education, 1999). The GEP teachers recognised the importance of teaching the gifted students to accept and learn to deal with failures. TC-5 explained that many gifted students who had always been the outstanding ones in mainstream were *"crushed and broken hearted"* when they first joined the program to find themselves in the lower ranks. Hence, observing the gifted students carefully at all times to notice any signs of problems with their schoolwork in terms of *"failure, lack of challenge, too difficult to cope, or home related problems"* was very important to all the teachers. From the data gathered, it appears that all the

teachers interviewed in the study reported here are generally concerned with the gifted children's well-being and are constantly on the look out for any possible signs of frustration, boredom or unhappiness.

5.6.4.6 Children's expectations of their teachers' roles

The researcher felt that it was insufficient to investigate if there was congruence between the MOE's expectations of the GEP teachers and the teachers' perceptions of their roles. It was thought to be necessary to investigate if there was congruence between the children's expectations of their teachers' roles as well. Hence, the children were encouraged to share their views of their expectations of their GEP teachers' roles in the 'Me' box writings.

From the writings of the children, it appears that all the children's expectations of the GEP teachers reassemble in some way those of the MOE and the GEP teachers. PA-1, PA-2 and PC-6 have written that they expect teachers to facilitate learning for all children, that they should be kind, understanding and make the children feel welcome and equal. PC-6 has also written that they should not be "*robots*". PB-4 and PC-5 expect their teachers to know their work well. They expect teachers to possess strong content knowledge prior to teaching them and that they should encourage risk-taking. PB-3 expects teachers to provide interesting, fun activities and be approachable and creative. She also expects teachers to provide ample hands-on experience.

Thus it can be said that there is congruence between the children's expectations of the GEP teacher's role in the program and those of the MOE and the teachers themselves.

5.6.5 Conclusion

Teachers of young gifted children should aim to provide learning opportunities that develop the gifted children's individual unique abilities. They should provide learning experiences that match the gifted children's individual academic needs. Teaching and learning at all levels should expand the choices available to these young gifted children as they seek to live their lives to their fullest

potential. It is the GEP teacher's role to nurture and guide gifted students to develop their gifts and talents to the highest possible level (McAdamis, 2000).

It can be said that all the teachers interviewed in the study reported here appear to fulfil the main roles expected by the MOE of Singapore and by the policy maker. Their perceptions of their roles and their reflections on how they achieve the objectives and goals of the GEP, indicate congruence between the expectations of the MOE, the young gifted children and the teachers, as well as the research literature.

The program is generally the same in all the GEP schools and the GE Branch officers and the GEP teachers meet regularly to develop the curriculum and to make certain that all the schools are accommodating the needs of the young gifted children and meeting the objectives and goals of the GEP. Regular observations of the teachers, and evaluations of the teaching methods employed, are carried out to ensure that a comparable standard is maintained among all the GEP schools (Ministry of Education, 1999).

5.7 Research Question 3:

What are the Attitudes and Opinions of Teachers and Children of Current Gifted Education Provision in Singapore?

5.7.1 Expectations Teachers have for Gifted Students

Research clearly establishes that for gifted students the expectations of their teachers and the attitudes and perceptions they have about their potential have a significant effect on student achievement (Bamburg, 1994). Teachers' attitudes and beliefs towards gifted education and their perceptions of the current gifted education program should be heard, for they have a very important role to play in providing a successful gifted education program for young gifted students.

If gifted students are to succeed, a coherent curriculum structure must be in place that defines for teachers, administrators, parents, and the students themselves, the goals and purposes of a specialised program and a similarity between the specific outcomes anticipated for learning. The GEP teachers' attitudes and beliefs have to be congruent with those of the GEP's goals and objectives in order for the smooth flow

of the program, for they are the primary mediators of curriculum and will ultimately determine the extent to which gifted students' cognitive and affective needs are being met (Tassel-Baska, 1994).

5.7.2 Significance

The teachers' views, attitudes and opinions of the current GEP play an important role in the provision of an efficient Gifted Education Program in Singapore and parent collaboration is necessary to enable a smooth flow of the program. Ascertaining the exceptionally able children's attitudes and opinions of the current Gifted Education provision in Singapore is necessary to determine its effectiveness in meeting the students' individual needs and to enable the children to voice their expectations and opinions to determine areas that might need to be further researched on a large scale. Data gathered from the MOE documents, as well as from the interview sessions with the policy maker, the six GEP teachers and the six GEP children and their 'Me' box writings, are the main sources that inform the following discussion.

5.7.3 Attitudes and Opinions of the GEP Teachers

Research indicates that young gifted children have special needs and that they require individually tailored curricula (Morelock & Morrison, 1999). Hence, it is essential that teachers in the GEP accept that young gifted children have special needs, necessitating a differentiated curriculum. In order for the teachers of gifted children to effectively teach gifted students and to provide a differentiated curriculum that is tailored to meet the individual needs of the young gifted students, they should receive appropriate training. Another critical factor in improving the chances of optimal development in young gifted children is to identify them and intervene at an early age (Guralnick & Bennet, 1987).

Frequently, gifted education receives insufficient attention due to the belief that gifted children are able to work things out for themselves and so do not require early identification and early intervention. However, the literature suggests that gifted children have unique needs and failure to recognise these needs can have deleterious effects (Sankar-DeLeeuw, 1999). Hence, the researcher decided to investigate the

attitudes and opinions of teachers of the GEP towards early intervention and identification; provision of a differentiated curriculum; the appropriateness of the program in meeting the young gifted children's cognitive and affective needs; the usefulness of the training they received; and other pertinent issues related to the current primary 4 gifted education program in Singapore. Advocates within the field of gifted education emphasise the need for sound preparation of teachers of young gifted students (Karnes, Stephens & Whorton, 2000).

5.7.3.1 Towards the selection procedure of teachers

Hence, the researcher wanted to find out how the teachers interviewed in the study reported here felt about the training they received and about the selection procedure of teachers for the GEP. As mentioned previously, all the teachers expressed their belief that they could not teach the young gifted children successfully without the training they received from the GE Branch and that the on-going training they received in the program was a high priority among them. TA-1 seemed to resent the idea of fresh NIE graduates being recommended by their lecturers to join the program, due to their lack of experience. She stated *"they should have at least 3 years of experience teaching in the mainstream."* Two of the six teachers (TA-2 and TB-4) thought the selection procedure was rather tough and explained:

TA-2:

"It depends entirely on the selection officers. If the officer's standard is high they will select a better teacher. I think it's not very consistent. The selection procedure of teachers has to be reviewed. Some officials are more lenient than others."

TB-4:

"I feel that the selection officers are very strict with the selection procedure. Maybe they should adjust the criteria so as to welcome more teachers from mainstream. Many teachers hesitate mainly because of the very tough selection process they have to go through."

Two of the six teachers (TB-3 and TC-5) thought it was fair. TB-3 felt that newly qualified teachers were just as capable as mainstream teachers in teaching gifted children and elaborated:

"I think that the selection procedure is alright, for the officers still come and assess us and they observe our capability regularly. I think it is fair to recruit newly qualified teachers into the GEP for I feel that what really matters is the teacher's ability, confidence and subject content knowledge than the experience in mainstream which would be an added factor but not a disadvantage. I know of several mainstream teachers who would not be suitable to teach these gifted children even though they have many years of experience in teaching mainstream children."

Being recommended by her lecturer from NIE, TC-6 admitted that she was not very sure of the selection procedure and made an assumption that it was *"all based on academic achievements."*

The researcher noticed that some of the teachers were concerned about certain issues in relation to the way the GEP teachers were recruited for the program. Mainly, fresh graduates who are recommended by their lecturers appear to be considered to lack experience and another teacher appears to feel that the selection procedure is of a very high standard and that it is based on the selection officers' standards. She appears to claim that some of the officers are stricter than the others, thus causing some inconsistency in the selection of teachers.

5.7.3.2 Towards the primary 3 screening and selection tests

According to Roedell, (1990) young gifted children display peaks of extraordinary performance instead of equally high skill levels in all cognitive areas. For example, a four-year-old or five-year-old child might have advanced skills in reading and in conversing about abstract concepts, yet find it difficult to do other tasks such as sharing toys or holding a pencil. These uneven developmental levels may cause frustration among students and teacher's guidance in developing coping strategies can assist these young gifted students to set realistic goals for themselves.

Early identification is strongly recommended by the literature. However, MOE has no involvement in identifying gifted children in the very early years before the Primary 3 Screening Test. Hence, the researcher felt that it was pertinent to investigate how the teachers of gifted children felt about the current situation of no formal involvement of the MOE in the very early years of young gifted children and

the current identification procedures used; and to suggest any other methods that could be used to identify young gifted children.

TA-2 felt that the current identification procedure was very good but expressed concern that the children were not tested in their mother tongue subjects during the identification procedures.

TB-4, who also expressed similar feelings that the identification procedure was good, suggested the inclusion of parents and psychologists as well.

Four of the six teachers (TA-1, TB-3, TC-5 and TC-6) raised the issue of MOE of Singapore failing to train the mainstream teachers in identifying or providing appropriately for young gifted children in the very early years and appeared to feel rather strongly that this was the cause of several problems in schools. They also shared similar opinions that early identification was possible and that it should be introduced so as not to miss out on any young gifted children.

TA-1 explained:

"Kindergarten and all mainstream primary school teachers should be trained to observe and take notes on the children's developments. Perhaps, early identification can then be done and parents and psychologists too can be included in this identification process. If they noticed any signs that their child is very talented in singing or is very musically inclined, they could develop their child's giftedness in that area by sending their child to a music school at an early age."

TA-1 felt that the "insufficient amount of training provided by MOE in identifying gifted children" was a possible cause for "several capable students failing to achieve due to a lack of challenge and boredom" caused by the presentation of lessons which are far below their standards. She further elaborated:

TA-1:

"The mainstream teachers in their attempt to cover the whole syllabus and having to juggle so many other duties seldom have time to focus on students individually. Moreover, the large class sizes prevent the mainstream teachers from identifying any early signs of boredom among students who are exceptionally talented."

TB-3 and TC-6 also felt that the MOE could start looking into ensuring that all the teachers including the mainstream teachers are adequately trained to provide appropriately for students of all levels so as to prevent boredom among young gifted

students who are too young to sit for the primary 3 screening test. They also felt that the mainstream teachers should have enough *"background knowledge on the history of gifted education"* and the *"appropriate teaching strategies to be employed to teach students of higher abilities."* TC-5 also added that this would *"prevent any frustrations, disruptions, aggressive behaviours and stress"* among the young gifted students in the mainstream schools.

TB-3 elaborated:

"Maybe it would be a good idea to allow teachers from the mainstream to be able to refer some pupils whom they feel are exceptionally talented. That would be very helpful. Perhaps teachers in the mainstream could be educated on gifted children and to watch for the signs of giftedness. Not just high scores, well behaved students, but also those who might be restless, bored, inattentive and who might just score poorly in the tests because they were not interested or did not choose to sit for the tests."

TC-6 felt the mainstream teachers should also be involved in the selection procedure since they would know their students very well and that it would be very useful for early identification of gifted students.

All the teachers interviewed in the study reported here seem to feel that there could be some form of improvement in the current identification procedures of young gifted children even though some of them said that they were very good.

5.7.3.3 Towards gifted children

The literature emphasises early identification and that gifted children have special needs (George, 1992; Morelock & Morrison, 1999). Since the teachers of the GEP have an important role to play in the effectiveness of the program, the researcher wanted to know the teachers' attitudes towards the gifted children; if they believed that they had special needs; if they had ever felt pressured or intimidated by them; and their attitudes towards early intervention.

All the teachers shared a common belief that young gifted children had special needs. Four of the six teachers had never felt intimidated by the gifted children. TC-5 and TC-6 admitted that they had felt intimidated initially when they had just joined the program.

TA-1 felt that she had a *"personal responsibility in some ways to give these children something to suit their interests and levels."* She stated *"Singaporean children do not challenge authority"* and if younger children were to be screened for giftedness, the identification procedure would *"have to be more specific."*

TA-2 appeared to feel rather strongly that it would *"not be appropriate for younger children."*

TB-3 stated the gifted children *"generally treat teachers like friends and get along very well"* and that she had never felt intimidated or pressured by them. She admitted that there were advantages to early identification but stated that the children had to have *"some experience in the mainstream environment too."* She further elaborated:

"We can stretch their potential. The children can absorb a lot more too at the young age."

However, she was also quick to admit that this might *"cause boredom and underachievement."*

TB-4 claimed, *"Singaporean children are usually very submissive and they tend to be quiet"* and said that she had never felt intimidated by them. She was *"not in favour of early identification"* and felt that it was *"not possible"* and stated:

"I don't think that it is feasible. Most of the boys especially would be disadvantaged for they usually develop at a later age and will be segregated. It's not fair to push the children at such an early age and to not give a chance to adapt to their surroundings. As it is parents are already very pushy with their kids in Singapore."

TC-5 and TC-6 admitted to feeling intimidated by the gifted children initially and explained:

TC-5:

"They had so many questions to ask in class and I had my syllabus to complete. Felt really pressured by time constraint. Initially I felt intimidated by the parents. For some of them wanted me to teach the way they wanted. Initially I felt intimidated on the whole, but now things are falling into place."

TC-6:

"Only during my first year as a GE teacher. But now I feel more relaxed and at peace."

TC-5 felt very strongly that early identification was possible and that the MOE should *"look into providing an appropriate program for children who showed signs of giftedness in the early years"* and *"not just have them wait for the primary 3 screening test"* and shared:

TC-5:

"Even right now, so many children say when they first come from the mainstream school that they were very bored in their classes. I think that if children are gifted in the young years, GEP can look into providing useful resources and learning experiences to these young gifted children and not just let them wait till they are selected. They might have started to fall behind in class instead of excelling due to the inappropriate learning environment."

TC-6 also seemed to support early identification since some children *"might find mainstream education unchallenging."*

Thus, two of the six teachers (TC-5 and TC-6), appear to strongly support early identification; two (TA-2 and TB-4) seem to oppose early identification; and one (TA-1) seems to think that identification should include specific and not just general ability. Four of the six teachers have never felt intimidated by the gifted children. TC-5 and TC-6 admit that they had felt intimidated initially when they had just joined the program.

5.7.3.4 Towards the most important learning for the gifted children from GEP

According to the Ministry of Education (1999) the GEP aims to nurture the young gifted children in their personal, social and moral development through the Affective Education Programme which aims to develop gifted children into individuals who:

- have a positive self-concept;
- are socially well-adjusted;
- have the right skills to further develop their potential; and
- seek to be actively involved in the community (p.18).

During the interview with the policy maker, Razak explained that this was the most important learning aim for the gifted children from GEP. Hence, the researcher wanted to find out what the teachers perceived was most important for the exceptionally able child to learn from the program. Affective development was TA-1's priority and she felt that the gifted children were academically at an advantage to be in this program and that they tended *"to be more self-absorbed."* She further added:

"I think that the most important thing that they should learn from this program is to be more open, caring towards others, develop interpersonal skills and so on."

To TA-2, developing the young gifted children's *"leadership qualities and collaborative skills"* were the most important learning and added *"we will mould the character."*

TB-3 appeared to believe very strongly that the young gifted children lacked *"social skills and sound moral values"* which she believed was the most important learning area for the gifted children.

According to TB-4, *"learning to use their giftedness to enhance their learning"* was very important and she believed that they should be educated to *"not look down on others who are not in the program."*

TC-5 stated that to her developing the young gifted children's *"critical learning skills and ensuring that they do not forget good moral values"* was essential.

TC-6 mentioned that learning to *"be a morally upright and independent thinker"* was very important.

Thus, it appears that the opinions of the six teachers interviewed in the study reported here, coincide with the aims of the GEP in taking a wholistic view of the development of young gifted children.

5.7.3.5 Towards parent participation and providing advice to them

During the interview with the policy maker, Razak mentioned that the *"environmental and non-intellectual factors have an impact on the realisation of the children's potential"* and that the *"environmental factors include the home and*

school." He also mentioned that the GEP played a part within the context of the school and that *"significant persons"* played a part in *"assisting gifted children in developing their talents through the mentorship programs offered by the GEP."*

In addition to that, the society has an important role to play in the realisation of the young gifted children's potential. A society that values excellence would provide various opportunities for the gifted children to grow and it is the aim of the GEP to work in collaboration with parents to help their young gifted children realise their full potential (Ministry of Education, 1999). Hence, the researcher felt that it was pertinent to investigate the teachers' attitudes towards parent participation and the provision of advice to parents of gifted children, since providing counselling and advice to students and parents of gifted children is one of the roles recommended for teachers of gifted children (Jenkis-Friedman et al, 1984). Principals, teachers, counsellors and administrators are parents' partners and as parents are the young gifted children's first educators, teachers and parents need to work in collaboration in order to provide an appropriate environment for the gifted children (Jenkis-Friedman et al, 1984; Haensly, 2001). Hence, teachers should welcome parent participation and should accept that parents' voices will inform, generate ideas and assist them in understanding the children's unique needs, or signs of conflict in the family, peer problems, stress, unrealistic expectations of parents and relatives and so on.

During the interview sessions with the teachers of the young gifted children in the study reported here, the researcher asked teachers if parents approached them for advice on how to cope with their child's giftedness, and if they did, the form of advice the teachers would normally provide. All the teachers except for (TB-3) reported that they did not mind parents approaching them for advice but stated that parents should not be overly concerned with their children's grades, nor focus only on their academic achievements. They mentioned that several parents had approached them with regard to the young gifted children's achievements and marks obtained in the GEP. They stated that most of the gifted children had problems coping with their parents' expectations and elaborated:

TA-1:

"These children who are streamed into the gifted stream were already bright in their mainstream schools and their self-esteem is affected

when they are not the top students here. Parents have to be aware of this. I talk to the parents when the children appear too stressed or pressured."

She also mentioned that these young gifted children were closely monitored and that there were "in-house counsellors" who discussed any personal problems that the children might have. She also stated:

"parents are called in if something turned up, any problem, such as a behaviour problem or anything to talk to them."

Being teachers of young gifted children, the five teachers mentioned that they always welcomed parents who approached them for more information on "coping with their child's giftedness." TA-2 stated that she always collected and maintained a list of resources on gifted education and was very eager to share it with parents of gifted children during parent teacher meetings. All the five teachers welcomed parent participation and felt that there should be more programs organised to include parents. They further elaborated:

TA-2:

"Parents should be aware of their gifted child's feelings and should not be too ambitious for their gifted children. Sometimes they forget that their child is actually a child. There are many parents who are just too pushy and just because their children have been selected into this program, they expect them to obtain the highest scores in all their tests, assignments and exams. I think it's very unfair to the kids too."

TB-4:

"I usually ask the parents to support their children and not to give too much pressure. I encourage parents to provide guidance with the children's projects but not to do it for them or to push them beyond their limits."

TC-5:

"Many parents have come to see me if the children started to score less when they first join the program. When a child is identified as gifted, it does not mean that the child is a genius so I usually ask the parents not to have unrealistic expectations of their children and not to place unnecessary pressure on their kids."

TC-6:

"When parents approach me about their child's performance in class, I usually discuss with them how their child is performing and how they can help their child. Most of the parents who have approached me were concerned about their children's performance. Parents should relax a bit with their expectations on their children's academic achievements. There should be more talks and parent participation programs to educate parents on the harms they can cause these gifted children with very high expectations. If parents seek for professional advice, I refer them to experts and suggest to them to attend courses that helps parents to cope with gifted children. I cannot / am not in the position to provide professional advice."

TB-3 had not encountered any parents seeking advice and commented:

"I think there are very good home support programs and books in the market. Parents have their ways to cope with the problems. I don't think that they need our advice."

She also mentioned that as a teacher it would be rather inappropriate for her to advise on any serious issues and felt that parents should seek professional advice if there was a problem.

Thus, five of the six teachers interviewed have had parents approaching them for advice on matters related to their children's performance and grades. All the five teachers appear to feel that parents have very high expectations of their children and all of them advise parents not to pressure their children. They also feel that there is a need for parent participation and that the MOE should look into organising more programs to educate parents on ways to cope with their children's giftedness and not to place unrealistically high expectations on their children. However, they welcomed parents who approached them for advice on coping with their children's giftedness. One teacher only (TB-3) had not encountered any parents seeking advice and mentioned that there were excellent home support programs and books to help parents.

All the schools have parent teacher meetings twice a year. Of the three schools, two schools (SCH-A and SCH-B) had a higher level of parental involvement than the third school. Parents helped out with the children's Chinese Language at home, newsletters were sent out to parents to inform them of any upcoming events and feedback forms were given regularly when the children first joined the program.

The two teachers (TC-5 and TC-6) interviewed from SCH-C felt very strongly that there was not much involvement of parents on their own accord, but mentioned that there were parent teacher meetings and briefing sessions held in their school.

5.7.4 Children's Attitudes and Opinions

5.7.4.1 Young gifted students' challenges

As mentioned by Buescher & Higham (1996), young gifted children often report a range of problems due to their abundant gifts including:

- perfectionism;
- competitiveness;
- unrealistic assessment of their gifts;
- negative response and rejection from peers;
- uncertainty due to mixed messages about their talents;
- parents' and society's demands to achieve; as well as
- problems with school work that is not motivating and challenging or increased expectations.

According to Maker (1982), young gifted students potentially vary from the mainstream students on the three key dimensions of:

- the faster pace at which they acquire and learn new skills;
- the greater depth of their understanding; and
- the range of interests that they hold.

5.7.4.2 Significance

According to Buescher & Higham (1996), in order to develop intervention programs that will meet the needs of the young gifted students in Singapore, the policy makers, educators, counsellors and parents need to be aware of and address:

- the attitudes and perceptions of young gifted children towards the current GEP;

- the obstacles they faced in the mainstream schools and that they face now in the current GEP.

They also need to accommodate the defining characteristics and the various attitudes of exceptionally able children (Parke, 1989).

As mentioned previously in chapter 2 in the study reported here, the literature suggests that some young gifted children are impressed at what they can do, while others feel isolated because of difficulties encountered in selecting friends. Some worry about world issues and feel helpless that they cannot do anything to resolve them (Clark 1997; Davis & Rimm 1998; Gallagher, Harradine & Coleman 1997; George 1992; Porter 1998). Indeed, common attitudes of young gifted children, as suggested by the literature, are that:

- nobody explains to them what gifted is and that it is kept as a big secret;
- schoolwork is very easy and hence very boring;
- the expectations of parents, teachers and friends are always very high;
- few understand them; and
- they often get teased because they are very smart.

The research literature points to the importance of any assessment of services for young gifted students, whether it be differentiated instruction in the classroom or a special self-contained program, to bear in mind the children's growth, enthusiasm and excitement for learning (Smutny, 1999). Hence, the researcher felt that it was important to investigate the young gifted children's attitudes and perceptions of the current primary 4 GEP in Singapore. Caring policy makers, educators and parents can assist these young gifted children to "own" and develop their gifts by understanding and responding to adjustment challenges and coping strategies (Buescher & Higham, 1996).

Hence, as suggested by Delisle (2001), the young gifted children were asked during the interview sessions, what they were learning, what they gained from the program that they didn't before, and also in what ways the program allows and encourages them to pursue their interests and passions. The answers to these

questions will provide some indication of the extent to which the GEP is currently meeting the needs of the students from their perspectives.

5.7.4.3 Towards projects given in the GEP

During the interview with the policy maker and the teachers reported in the study here, the researcher learnt that the young gifted children were involved in various projects in the program. In order to investigate what the young gifted children were learning in the program and what they gained from the program, the researcher decided to question them about the projects in which they were involved, what they were about, and if they enjoyed working on them. The researcher also invited them to describe any other projects in which they had participated and which particularly interested them.

Five of the six students reported in the study here were involved in a social studies project that involved writing a war journal about the Japanese occupation of Singapore. PC-6 was working on a helicopter model, having already completed the social studies project. All the students admitted that they found the projects in the GEP to be more challenging, innovative, fun, interesting and creative than the ones that were given in the mainstream schools. All the students found working on the social studies project particularly enjoyable and reported that it helped them to gain a better understanding of the history of Singapore:

PA-1 described:

"It's a war journal. We have to write it as if we were present during the Japanese war in Singapore. It involves a lot of researching back into history and monitoring what happened in the past and writing as if we were present during that period. It's quite interesting."

In addition to that, PA-1 also shared his experience working on another social study project that he found to be very interesting:

"I had to walk around the neighbourhood, meet the people who lived or worked in that area, for example, the shopkeepers, cleaners and conduct interviews. I had to find out how the neighbourhood could be improved. I presented my findings in front of the class using powerpoint."

PA-2 was involved in another project that required her to invent something in a group, in addition to the social studies project on the Japanese Occupation:

"We're trying to invent something that will help humans for our IRS project. We have to brainstorm on different ideas first before starting. It allows us to be creative and innovative."

She also stated that one of her favourite projects was one that she did for an English lesson:

"It was called The Reader's Theatre. It was based on a fairy tale that everyone knew, 'Goldilocks and the three bears'. We changed the story and wrote a new script and typed it out on the computer and made it into a book with illustrations."

She mentioned that she thoroughly enjoyed working on it and that she found it to be much better than the assignments that were given in the mainstream school. She also explained that it taught her to write scripts, to be creative and learn to use different styles of writing.

PB-3, who was also working on the social studies project, shared her thoughts:

"We have to imagine that we existed at that time and write a journal reflecting on how it would have felt to be present at that time. It is very different from the other projects that I have done before in my former school."

She also added that it opened up opportunities to be *"creative, imaginative and be aware of the history in a fun and interesting manner"*. Every Friday, PB-3 was involved in designing a prototype for her IRS project. She admitted that she was still searching for a good idea and felt that she was constantly changing her mind. She stated that it had to be something that would be of use to human beings. She talked about her most favourite project enthusiastically:

"We had to choose a fairy tale and change the version into a modern one for an English project. I simply loved it. It was really fun. My friends and I enjoyed working on it and we had so much fun writing lines that had a pun and thinking of ways to use the original characters in a modern setting."

PB-4 was rather concerned that she had not decided on what she was going to invent for her IRS project, as she found her interests shifting constantly:

"I haven't made up my mind yet and I am worried that I am running late. It's very frustrating. I will decide on something and feel that it is very interesting and challenging to do and then will find it to be a

very stupid idea and lose interest in doing it. I can't seem to stick with one idea for long."

She mentioned that she enjoyed working on all the projects given in the GEP and stated (Appendix 11 - The GEP Brochure for Parents and Students):

"Actually, when I first received a brochure from the Ministry of Education about the Gifted Education Program I was very happy to read that there were a lot of projects in this program."

She mentioned that she could not pick the most favourite project as she had several favourite projects in the GEP. She elaborated:

"I really enjoyed doing the Social Studies project where I had to meet the people living in my neighbourhood and conduct interviews and present what I gathered. The aim of the project was to find ways to improve the neighbourhood and how we can help. I thoroughly enjoyed all my English projects. I have done newspaper columns, book reviews, script writing and dramas. "

She explained that the social study projects enabled her to learn about the significant events that took place during the Japanese Occupation and about Singapore's community. She also mentioned that she learnt how to use different forms of writing when doing the English projects.

PC-5 also shared his views of some of the projects he enjoyed working on and felt very strongly that the social studies project on the Japanese Occupation was the most interesting one he had ever done in the GEP:

"It's fun to write the journal for social studies, it's very creative and makes me wonder how things were in Singapore at that time. I had to visit the museum, library and Sentosa's war museum to do some research first before starting on the journal."

He also stated:

"I have done many other small projects in the program such as a social studies project called the 'Neighbourhood Walk' and a science project where my friends and I made a recycling machine that recycled waste paper."

PC-6 was also concerned that he had not started on the IRS project and felt that he was rather "fussy" in deciding what to create. He was very eager to talk about a helicopter that he was constructing at home and stated that he wanted to be an aircraft engineer:

"My father bought me the kit for my birthday and I love working on it. It has 50,000 small parts, engine, propellers and many other stuff. I have many other models at home that I have done. I've built many different planes, star wars models and tanks."

PC-6 also felt that the most interesting project he had done in the GEP was the social studies project on the Japanese Occupation and elaborated:

"I enjoyed doing research on the war that took place and I pretended to be a Japanese aircraft warrior and wrote about my experiences. My teacher said that it was very different from everyone else's because I was the only one who wrote it from a Japanese's perspective. I learnt to be creative, to conduct research and then use it creatively to suit my style of writing."

As suggested by all the students reported in the study here, the projects given in the GEP are not straightforward projects where the young gifted students merely describe something. All of these projects are very stimulating and challenging. They involve the students using higher thinking skills, imagination and creativity in their writing and presentation of the projects, which appeared to be missing in the mainstream schools, as can be seen later.

5.7.4.4 Towards the subjects taught in the GEP

Favourite subject/s. As suggested by several researchers, when planning an instructional program for young gifted children, it is difficult for the teachers to keep the gifted children challenged and to provide differentiated instruction to suit their different levels of ability (McAdamis, 2000; Tomlinson, 1999; Reis, Kaplan, Tomlinson, Westberg, Callahan, & Cooper 1998).

Hence the researcher felt that it was pertinent to investigate the young gifted students' attitudes towards the subjects taught in the program.

Mathematics was a favourite subject for PA-1, PA-2, PC-5 and they each explained:

PA-1:

"It's fun to do when you're free and when there's nothing to do. It deals with a lot of complicating problems. I really like the Maths teachers here in the program."

PA-2:

"Maths is fun here and the teacher is very understanding and friendly unlike the maths teacher in the mainstream school. He also encourages us to solve the same problem in many different ways. I like his teaching methods a lot."

PC-5:

"Even though I'm not very good at it as my other friends are, I still like it as there are many ways to solve a single problem and there is a lot to learn from maths. And also I enjoy working on the challenging activities that my teacher provides in the program. I like my teacher's attitude toward teaching maths."

PA-1 stated that he seldom gave up on a problem and that he tried it "over and over again" till he solved it. He explained that if he really could not solve it after having attempted for up to two or three days he would then consult his Mathematics Teacher. He shared an experience eagerly:

"There was once I was stuck on a Maths quiz. I had been trying to solve it for three whole days and finally I approached the teacher and he was puzzled by the quiz too and asked another Maths teacher. We all tried to solve it together and in the end it was a small area that we had overlooked. It was really fun working on that quiz with my teachers. Since then, whenever they see me they ask if I have any new challenge for them."

PA-2, PB-3 and PB-4 mentioned that English was one of their favourite subjects for these reasons:

PA-2:

"I love to read novels and literature books and the English teacher is really fun and full of new ideas."

PB-3:

"English because it's more interesting and fun here and the teachers' approaches are very different. In the old school we just used to sit at our desks and do worksheets but now it's very good for we have written scripts and put up sketches. That was very interesting to do. I enjoy English classes and the English teacher makes it very rewarding."

PB-4:

"English, because I've always been good at it and it always has something different for us to do especially in the GEP. The English language teachers are always full of surprises."

One student only (PB-4) mentioned Science, as one of her favourite subjects as well, while PC-6 was the only student who mentioned Physical Education as his favourite subject. They elaborated:

PB-4:

"I also like Science in this program now. Because we have been doing several experiments and there's more hands-on experience here. In the mainstream, Science used to be so boring for the teacher would just give us the answers to the experiments and we never even had the chance to carry them out in the first place."

PC-6:

"PE because I like to play games and I know how to play a lot of games."

It appears that the young gifted children reported in the study here are passionate about some subjects in the GEP and they seem to somehow link it to their perceptions of the teachers as well.

Least favourite subject/s. The researcher felt it important to investigate if there were any subjects offered in the GEP that the students disliked and to determine the reasons they felt that it did not meet their needs.

Chinese was the least favoured subject to four of the six students (PA-2, PB-3, PB-4 and PC-5) because of the level of difficulty involved. They further elaborated:

PA-2:

"It is very difficult and too time consuming to complete all the Chinese homework. I wish the teacher will reduce the workload for Chinese."

PB-3:

"It is very difficult and I usually get help from a girl in my class who is a genius in that subject. The teacher is also very boring and it is

not easy to concentrate during Chinese classes especially on a hot day when it is boiling."

PB-4:

"Chinese, because it is so difficult to remember all the characters. I am so accustomed to English. I speak in English at home and my grandmother is the only person who can speak in Chinese when she visits us."

PC-5:

"Chinese, because there is too much homework and the Chinese exams are very difficult. The teacher is also very strict most of the times."

Science and Music were also disliked by a student each (PA-1 and PC-6), due to the student's dislike of the teacher. They explained:

PA-1:

"Because the teacher is quite boring. It should be more fun. The teacher gives too many facts all at the same time and sometimes it's too complicating. We do experiments but I think it would be better if the teacher explained some of the terms he uses first. He uses too many complicated terms and he is so boring."

PC-6:

"Music, I dislike the teacher. She is very strict."

The researcher was again able to notice a connection between most of the students' comments about their least favourite subject and their perceptions of the teachers of those subjects.

5.7.4.5 Towards homework given in the GEP

The researcher probed the pupils' feelings towards homework and discovered that all the students disliked homework, with Chinese singled out for special mention:

PA-1:

"As everyone complains, I don't like homework, however, it is necessary for us to gain practice before the exams. But I still don't like Chinese homework."

Three of the six students reported in the study here (PA-2, PB-4 and PC-5) mentioned that they always did their English homework first, since they enjoyed it, but stated that they always left their Chinese homework till the end because *"it took a long time to complete it."*

PA-2:

"I always leave my Chinese homework the last because I don't like it and it is very difficult at times. Sometimes my mother asks me to do it first since I take a long time to complete it."

PC-5:

"Sometimes it can be terribly depressing and too time consuming especially Chinese. But sometimes, I treat it as a past-time activity if it is to do with English."

PB-3 stated that she disliked homework in general, unless it was fun, and felt that since she joined the GEP it has been more interesting. However, she stated that she was not particularly fond of it because of the level of difficulty.

PC-6 also mentioned that he disliked homework in general and felt that he could be *"doing so many other things."* However, he stated that he particularly disliked Chinese homework. He felt:

"Since it is a must maybe we could have a little less especially for Chinese. I takes a long time to complete my Chinese homework as it is and we are usually given a lot of homework by our Chinese teacher which makes it worse."

It has been noticed that all the young gifted children reported in the study here dislike homework, with Chinese singled out as being very time consuming and very difficult. Three of the six students (PA-2, PB-3 and PC-5) have also written in their 'Me' box reflections that they dislike Chinese homework and that it is very difficult.

5.7.4.6 Towards exams in the GEP

During the interview sessions with the teachers of the GEP reported in the study here, some teachers made the point that it was rather frustrating for gifted students to sit for the same exam as the mainstream students. Hence, the researcher probed the pupils' attitudes towards exams in general and sitting for the same exam as the mainstream students in particular.

It may be seen that four of the six students disliked exams and found them difficult:

PA-2:

"Oh, I dread exams. I try not to revise but my mother always asks me to revise what I have studied. I resent Chinese exams the most for I have to memorise a lot for it. Oh, I think that it is not fair that we have to sit for the same paper as the mainstream students. I think it will be easy for us because we have so much practice and the content is covered in a greater detail so probably we'll do better."

PB-3:

"Well, the exams are harder than the mainstream exams. I don't understand why they have to give us such difficult exams now when we are going to sit for the same exam at the end of this program anyway. It's so unfair. I'm not enjoying the Science exams here for there are too many terms that we have to remember and they are not even going to be tested on in PSLE."

PB-4:

"Exams are more difficult and they are more difficult to pass in the program but since we are going to sit for the same exam as the mainstream students these exams will prepare us to do very well in our PSLE exam. It's not fair to the mainstream students."

PC-6:

"I hate Chinese exams. They are very stressful. I don't mind sitting for the same exam for the Chinese exam since it will not be as difficult as it is in the program. It is unfair to us since we have to go through all the difficult exams and tests in the program and then sit for the same paper."

PA-1 differed greatly in his comment when he responded that he actually liked exams and elaborated:

"It helps to see where I am, how much I have understood and retained. But I think that it is unfair to us and to the mainstream students to have to sit for the same exam in the end. If the questions were set in a way to suit us it would be very challenging for them. If questions were set in a way to suit them it would be very easy and after working on such challenging sums and problems in this program, it doesn't make sense to sit for a paper that is very easy. It will be boring."

PC-5 felt that exams were necessary so as to be able to determine how the GEP was actually assisting students and added:

"But maybe we shouldn't have the same exam as the mainstream students since we seem to cover a lot more in depth. It's unfair to us and to the mainstream students."

Thus, all the students reported in the study here appear to feel very strongly that it is unfair to them and to the mainstream students to sit for the same exam paper in Primary six, as can be seen from their responses during the interview and from their reflections in their 'Me' boxes. Subjects relying primarily on rote memory (e.g. Chinese, Science etc) are particularly disliked.

5.7.4.7 Likes and dislikes about the GEP

The researcher wanted to find out what the pupils liked and disliked most about the GEP in their school and why, in order to identify any areas for future development.

The young gifted students reported in the study here liked the challenging, friendly environment and attitude the teachers displayed towards them, as well as the smaller class size that allowed more individual attention. They elaborated:

PA-1:

"I like the interesting activities we do in the program, the maths quiz we are given and the challenging sums. I also feel that it is easier to make friends here and that they are able to understand me better here."

PA-2:

"I like the way the teachers teach in this program. They always teach in a fun manner and it is very interesting but I feel sorry for the Science teacher because the students are usually always yawning in his class because it is quite boring because it's related to facts. The teacher might feel lowly because of this. I feel sorry for him."

She also stated with a smile that she fitted in well in this program. She wished that all the students could be allowed to do this program. She explained that it was *"more interesting, fun and challenging compared to the mainstream school."*

PB-3 and PB-4 also liked *"the fewer number of pupils and the big classrooms"* and felt that *"the pupils and the teachers are more understanding"* in the program than in the mainstream schools. PB-4 elaborated:

"The teachers can answer our questions better than the mainstream teachers who have about 40 pupils in a class whereas there are only 24 here in my class. I can't understand why there aren't more schools with Gifted Education Programs. There are only a few. My mother and I feel that the program should be for everyone and not only for a certain group of children. My mother also feels that even though I didn't work hard for it I still deserve it."

PC-5:

"I like the teachers as they are forgiving and make learning fun."

PC-6:

"I like the experiments we carry out during the science lessons here and the fieldtrips that are conducted in this program."

However, all the students mentioned that they disliked the heavy workload and homework given in the program. They commented:

PA-1:

"I dislike the homework and the extra workload we are given at times in Chinese. It's too difficult and time consuming."

PA-2:

"I don't like the extra homework and the very heavy workload given at times. I also dislike having to stay back after school often for group meetings."

PB-3:

I dislike the amount of homework we are given especially in Chinese and would prefer less homework and more Physical Education."

PB-4:

I don't like the workload. It's too much at times."

PC-5:

I don't like the homework load as there are too much workload in this program."

PC-6:

I don't like the amount of workload given in this program. It's too much to handle at times. I don't think it's necessary especially if we're not even going to be tested for PSLE."

A growing concern among all of the students reported in the study here appears to revolve around the amount of homework and workload given in the program, although all the students enjoy the challenge the program offers. Several of the students interviewed have continuously displayed feelings of dislike towards Chinese lessons and Chinese homework in particular.

5.7.5 Comparison of the Gifted Children's Attitudes

5.7.5.1 Significance

The MOE of Singapore recognises that gifted children should be provided with a high degree of mental stimulation which may not be provided in the mainstream classroom, and that as a consequence, the gifted child might become an underachiever, or an indifferent or even disruptive class member (Gifted Education Branch, 2001).

Hence, it is essential that when children present advanced abilities and strengths during the early childhood years, they be provided with a curriculum that best suits or matches their abilities, so that their potential can be maximised.

Therefore, as mentioned earlier in chapter two, the researcher felt that it was vital to investigate the policy and practice in relation to preparation of mainstream teachers in the identification of young gifted children in Singapore. When asked if there was any form of training provided to early childhood teachers and mainstream teachers on how to identify gifted children, the policy maker stated:

"There's no training for early childhood or mainstream teachers who are not in the program."

Mainstream teachers who lack experience or training in effectively teaching gifted students, might not realise the importance of providing a differentiated curriculum. They might not see the need to provide challenging and enriched

activities and lessons. They might just take the easy way out by following the prescribed curriculum for the majority of children in their classroom.

Several mainstream teachers tell gifted students that there is no need for them to learn anything in school and they emphasise so-called socialisation (Roedell, 1990). It is important to note that for a young gifted child in a kindergarten class of 25 to 30 students, major socialisation depends on the child's feeling of acceptance by others: teachers and children alike. Moreover, if the mainstream teacher does not acknowledge a gifted child's advanced abilities and intellectual curiosities and interests by making him part of the curriculum, the child feels no acceptance from the teacher (Roedell, 1990).

Hence, the researcher decided that it was pertinent to investigate the attitudes of the gifted children in Singapore towards their current GEP teachers in comparison to their former mainstream teachers, as well as their attitudes towards their classmates and friends in the current GEP in comparison to former classmates and friends from the mainstream schools. Responses of the children from the interview sessions and from their written responses, which were grouped into the two main groups of "Experiences since identification" and "Experiences prior to identification", have been used for the following discussion.

5.7.5.2 Attitudes towards their early childhood teachers and mainstream teachers in comparison to their GEP teachers

The researcher wanted to find out how the pupils felt about teachers in the GEP program and teachers in mainstream schools in terms of their teaching approaches, counselling, attention provided and attitudes towards teaching them.

All the students had positive feelings towards their teachers in the GEP program and all of them mentioned that they preferred the teachers in the program to the teachers in the mainstream schools.

PA-1 elaborated during the interview that the teachers were "*more fun to be with*" in the GEP and also felt very strongly that they were more understanding and caring towards the students' needs. He further added:

"The teachers in the program are better trained to provide useful advice and to be more attentive to the students' needs."

He also felt that they had far better teaching methods and that they always tried to make the students understand what they were teaching. He described:

"In the mainstream school the teachers used to just read from textbooks and always gave very boring work. The GEP teachers don't just read from the textbooks like the mainstream school teachers. That's the best part of this program. The teachers here listen to what we have to say and they encourage us to share our thoughts and opinions."

PA-1 described the lessons in the mainstream class as being *"boring, unchallenging and not motivating"* in his 'Me' box reflections.

He also held the opinion that the mainstream teachers were always in a *"rush to complete the lesson"* and that they seldom provided any opportunities for hands-on experience. He insisted that he preferred the teachers in the GEP to the teachers in mainstream and elaborated:

"I hated it like anything when the teacher too asked me to provide a simpler answer and not use such complicated words. Since that day, I stopped answering any questions on my own accord and never raised my hand even though I knew the answer to the question. But it's different in this school and the teachers encourage us to provide different answers."

PA-2 strongly supported the GEP teachers' teaching methods and described:

"They do their part a lot. They try their best to make the lessons fun and interesting. We have to be thankful for that. I prefer the teaching methods in the Gifted Education Program."

She recalled that in the mainstream school, the teachers were *"usually very impatient"* and that they tended to *"scold a lot."* She also felt that *"they just read from textbooks"* or wrote *"on the blackboard"* or gave *"boring worksheets"* and *"scolded frequently."*

She appeared to feel strongly that there should be *"more teachers like the ones in the Gifted Education Program"* and stated that she preferred the teachers in the program to the mainstream teachers. She also described the GEP teachers in her 'Me' box as being *"very friendly and understanding."*

PB-3 also preferred the GEP teachers' methods of teaching and explaining and felt very strongly that they were very caring and pleasant, unlike some of the mainstream teachers who were fierce. She elaborated:

"I didn't like some of my teachers from my previous school. They used to be very snappy. Once, I forgot to bring my Maths worksheet and the teacher, without even bothering to hear my explanation, just snapped at me in front of the whole class. I hated it. The teachers are more patient in this program and their way of teaching is more interesting."

She also stated that her mother used to complain about the teachers in her former school. However, PB-3 confided that there was one teacher whom she really liked in her former school and that she missed a lot.

She has written in her 'Me' box that she found the lessons in the mainstream school to be boring and that in the GEP, more individual attention was given by the GEP teachers.

PB-4 felt that the GEP teachers were better trained than the mainstream teachers and elaborated:

"The teachers in the program seem to know the subject they are teaching better. They can explain the answer better but the former teachers from the mainstream school used to ask us to go back and look up the answer and if we went back not knowing the answer they were not very happy about it either. I think that my former school was a very good school but some of the teachers didn't seem to know their subject content well and they never used to answer my questions properly. In fact they didn't seem to like questions being asked at all. I prefer the GEP teachers."

She has also described in her 'Me' box that the mainstream teachers were "strict teachers" and that they conducted "boring lessons."

PC-5 found the teachers in the GEP to be very "enthusiastic teachers." He also described them as being "fun, intelligent and jovial." He stated that they provided "various hands-on experiences." He felt that his mainstream teachers were "also friendly" but that they always "seemed to be pressed for time" and that "they had to rush the lessons to complete the syllabus." He elaborated:

"They did not have time for jokes or for hands-on experiences. They always gave a lot of worksheets during class time and also for homework. We did not have many projects in the mainstream, and

even if we did they were very simple and not as interesting as the ones given in the program. I prefer the teachers in the program for they are more fun to be with."

He has summarised his feelings towards the GEP teachers and their teaching in his 'Me' box as being *"pleasant, challenging, stimulating, motivating, thrilling and fun."* He has also described the mainstream work as being *"boring"* in his 'Me' box.

According to PC-6 the GEP teachers *"are more lenient, kind and friendly."*

He also commented:

"I prefer them to mainstream teachers. They are very approachable when compared to the mainstream teachers. They also do not just read from textbooks or hand out worksheets after worksheets which are very boring and childish at times."

He also mentioned that the mainstream teachers failed to focus on each individual student. He elaborated:

"They do not have time for that as they have about 36 students in their class while the teachers in the Gifted Education Program only have about 25 students in each class. The smaller sized class enables the teachers in the program to focus on each individual students' abilities and weakness."

PC-6 wrote in his 'Me' box that he *"liked his English and Art teachers a lot"* when he was in Kindergarten. He has also written that the GEP teachers were *"fun, challenging and more intelligent"* and that the lessons were more *"interesting and enriching"* and that they provided a *"variety of fieldtrips."*

Thus, all the students appear to have positive feelings towards their teachers in the GEP and to prefer the GEP teachers to their former mainstream teachers. They have criticised several aspects of the mainstream teachers' teaching methods and the way they treated them and responded to their questions or answers. The students also appear to prefer the projects and activities offered within the program such as, field trips to those of the mainstream program. On the whole, they appear to prefer the attitudes and teaching methods of the GEP teachers and criticise some of the mainstream teachers' attitudes and behaviour towards them.

5.7.5.3 Attitudes towards their classmates from the GEP and classmates from the mainstream schools

In the study reported here, the researcher probed the young gifted children regarding their friends in the GEP and how they felt about them. The pupils were asked if they had friends before joining the program in the mainstream setting and if they kept in touch with them now. The researcher also asked the students if they had ever felt left out or lonely and encouraged them to describe the incident that made them feel that way or the most unpleasant incident that had happened to them.

Four of the six gifted students revealed that they did not keep in touch with former classmates and friends from mainstream schools. However, PA-2 had some good friends in her former mainstream school and confided that she was *"sad to leave them"* when she first joined the GEP. She also mentioned that it was *"quite painful to part"* and that she maintained contact with them. Also, PC-5, who did not have to change schools to join the GEP, said that he still saw his former classmates and that he had *"many friends from the other stream as well."* PC-5 wrote in his 'Me' box that he had fewer friends in kindergarten and that he found them very *"childish."* However, he had many friends in the mainstream class, as stated during the interview.

It may be seen from the gifted students' comments during the interview and from their writings in the 'Me' boxes, that all the students had friends in the GEP and five of the six students mentioned that these friends were more understanding.

Among the six students, one student only mentioned that he had never felt left out. The other five students cited incidences where they felt left out. For four students this occurred in the mainstream school, while for the remaining one, it took place at home when her mother invited her friends and their daughters over. She described:

"I usually feel awkward to talk to them and feel left out a bit during that time for I don't know what to say to them. I have asked my mom not to invite them or force me to sit with them but she always does. It is unpleasant for me to sit there and waste my time not knowing what to say to them. They always seem to have so much to talk such as about shoes, shopping, clothes and so on."

PA-1 described his friends in the GEP as fun and understanding. He felt that the majority of the students in the primary 4 GEP program were his friends and that he enjoyed being with them. He further added:

"I like friends who are fun to be with. I dislike friends who say that I am too complicated. I like it better here. I think my friends here can understand me better."

He confided that he did not have many friends in the mainstream and that he used to get frustrated when his classmates said that he was *"too complicated or that he was a nerd."*

Similar feelings can be identified in his writings in the 'Me' box which reflect that he had felt *"very unhappy and lonely"* in the pre-school and former mainstream school. It reveals strong feelings of hatred:

"Hated my pre-school and primary school experiences. Will always hate it. Don't ever want to visit it. Hated being in the two schools. Students were very mean, called names, bullied me...felt different from the other students at times and hated it when they said that I was complicated including some of the teachers."

He also elaborated during the interview:

PA-1:

"I always felt that nobody understood me and felt very angry and frustrated with students who called me names and made fun of me. I used to feel very left out whenever the whole class laughed at my responses in class. The students used to make faces and say that I am too complicated for them to understand me."

Even though PA-2 kept in touch with some friends from her former school, she also shared similar feelings of dislike towards some of her former classmates. She explained:

"I loathe friends who don't care about your feelings. Some people are very sensitive but some aren't. I despise people who don't care about others. Some of my classmates in my former school were like that. They used to pass hurtful remarks at times."

She said with a sigh of relief that she did not experience such *"hurtful remarks"* from her friends in the GEP and described them to be:

"Very loyal and don't go around saying hurtful things behind your back. I have a very close friend here. She's what I'll always look for

in a friend. She's loyal, tomboyish, has the same interests, talks about the same kinds of stuff and so on. I have some very close friends here now who share the same interests and who seem to understand me better."

Her writings in her 'Me' box suggest that she did not have many friends in kindergarten and in her former mainstream school. It also suggests that she felt *"lonely and left out"* there and that she was constantly hurt by her former classmates' unkind remarks, especially the boys whom she described as *"really horrible and extremely mean."* She has also written that she *"did not have to put up with unkind remarks"* since she joined the GEP and that she *"did not have to pretend"* that she *"did not know the answers."* Her writing also reflects that she is *"proud to do well"* in the GEP.

She also stated during the interview that she used to feel very left out in her former school whenever her former classmates ganged up against her and when they brushed her aside, saying that she was too smart for them. She described feeling very hurt when they passed such comments. She mentioned:

"The most unpleasant incident was after each test in my former school when the teacher read out our grades. I felt very sad when all my friends got lower marks than me and when I was the top student. I know that a lot of my classmates hated me for that and sometimes I even tried to make mistakes knowingly so that I would not be the first. But when my mom heard about it, she gave me a long talk and said that I should not do it. She said that it was not worth doing such things for people who didn't care about others. I don't have that problem here now and I'm not the top student all the time too."

PB-3 also felt that she had more friends in the program and elaborated:

"I only had one good friend in the mainstream school. The friends that I've made here are more understanding and interesting. It's easier to mix here than in my previous school."

Similar to PA-2, PB-3 also disliked the boys in her former school and explained:

"I hated them. They usually picked on me and shouted names when I passed them. Once, a boy pushed me when I refused to give him my book for him to copy my homework which he had not done."

When questioned if she had reported it to her teachers or her parents, PB-3 shook her head and elaborated:

"No, it will only make things worse for the boys will then be even more horrible afterwards and everyone will think that I'm very bossy and proud."

She wrote in her 'Me' box about her kindergarten experiences:

"I did not enjoy going to the school. I was miserable and unhappy. My mother taught me at home."

She also mentioned that she used to feel very left out whenever her best friend was either away from school or when she was paired up with someone else during group work. She stated that she was the only one who was nice to her. She further elaborated:

"I hated the boys especially because they were always rude and mean. The most unpleasant incident was when a boy tripped me purposely and everyone laughed at me. I was so embarrassed and hurt by it and felt left out and lonely. I didn't tell my parents about it because it would be very childish."

She wrote similar feelings in her 'Me' box about her experiences in the former mainstream school:

"I do not have many pleasant memories. Was bullied and picked on by the boys."

PB-4 also mentioned that she had several friends in the program and that she did not have any real friends except for one girl who was *"fun, intelligent, talented and understanding."* She elaborated:

"I had a close friend in my former school. She was also offered a place in the GEP but in a different school. She has now transferred to this school and I'm so happy about it. She can sing very well. She is usually very quiet. On the whole, I think the friends that I have here are more understanding and share common interests and feelings. No, I don't keep in touch with my former classmates."

PC-6 had more friends in the GEP and also admits being bullied by some of his former classmates. He elaborated:

"I only had a few friends in my former school. I don't keep in touch with them. I don't want to anyway. They always used to pick on me and had a nickname for me that I was a proud peacock in Chinese and also passed very hurtful names."

He appeared to feel very strongly that his friends in the program were *"far more understanding and caring towards others' feelings."*

His writings in his 'Me' box reveal that he was lonely at pre-school and that he did not have many friends there as well. In fact, he has also written, *"cannot remember any friends"* and further explained during the interview that his parents had been rather concerned that he seldom got along with his classmates in his pre-school and that he usually played by himself when he was younger. He has also written that he used to feel *"left out"* and that his classmates in his former mainstream school were *"mean."* During the interview he also stated that he did not like his former classmates and that he knew that they did not like him too. He elaborated:

"I always felt that they were very silly and childish in many ways and could not find anything much to say to them. They always say that I'm proud and that I'm a nerd. I don't know, maybe I am a little proud but I'm not a nerd."

According to PB-4 whenever her mother invited her friends over for lunch she felt awkward and left out. She elaborated:

"My mother's friends bring their daughters along and I usually feel awkward to talk to them and don't know what to say to them. I have asked my mom not to force me to sit with them but she always does and it is unpleasant for me to sit there and waste my time not knowing what to say to them."

She also mentioned that she felt that her mother did not understand her feelings and forced her wishes upon her at times.

Thus, four of the six gifted students (PA-1, PB-3, PB-4, PC-6) did not keep in touch with former classmates and friends from mainstream schools. All the students except for PC-5 have written in their 'Me' boxes that they have more friends in the GEP and that they are more understanding. PC-5 is also the only student to state that he has never felt left out. All the other students have cited incidents of this occurring in their mainstream school with one stating that it took place at home. Also the students have cited several unpleasant incidents that occurred in the mainstream schools.

5.7.6 Conclusion

On the whole, all the teachers felt that the current GEP for Primary 4 gifted children was effective and felt positive towards it. They felt that the in-depth curriculum, the varied teaching methods allowed to be used in the program, the accelerated learning and life long learning were the main advantages of the program. TA-2 felt that the main advantage of the program was *"moulding the children's characters and building on their leadership qualities."* TC-5 also felt very strongly that the program had many positive aspects such as:

"varying teaching strategies, effective teaching methods and approaches, ample opportunities for questioning of children, flexibility in teaching and smaller number of students."

Similarly, all the students appeared to prefer the lessons, teaching methods and activities provided by the GEP teachers in the program to the teaching methods and activities conducted in the mainstream. They seemed to be greatly motivated by the various activities, enriching programs and projects offered in the program. They all agreed that the projects given in the program were more challenging, interesting, fun and motivating when compared to the work given in the mainstream, which they described as boring. This confirms the importance of early identification, since failure to do so can create a lot of problems such as underachievement, stress and boredom. Several studies have also confirmed that the most intellectually gifted students are often highly critical of their teachers and report that the school system is extremely boring (Winner, 1996; Gallagher, Harradine & Coleman, 1997).

TC-5 felt that all students, including the mainstream students, would benefit greatly from such a program. Similarly, one student (PB-4) also felt that the program should be available *"for everyone and not only for a certain group of children."* She added that her mother felt that way also.

The main disadvantage of the program was thought by two of the teachers (TA-1 and TB-3) to be asking the gifted children to sit for the same PSLE exam as the mainstream children. As TA-1 elaborated:

"It takes the joy out of learning when it is the same exam that is used in the mainstream as well."

She also stated that the gifted children felt very frustrated when they were tested for the same exam as the mainstream children especially when they had covered more content. It appeared to be frustrating for the teachers too when gifted students wanted to explore a topic further and they had to cut it short, since the students would not be tested on it.

Similarly, all the children interviewed in the study reported here appeared to be concerned that it was rather unfair to them and to the mainstream students to sit for the same exam papers as the mainstream students in Primary six. PB-3 also wrote in her 'Me' box that she was worried about her Chinese and Mathematics exams and about having to sit for such difficult exams in the program when ultimately she was going to sit for the same PSLE exams as the other mainstream students.

TA-2 felt that the disadvantage of the program was the attitude of the gifted children who felt that they were different and far better than the others while two of the six teachers felt that the children's childhood was lost. In the words of TA-2:

"The children think that they are different from others and that they are far better than the others. The program needs to look into this."

Gifted children have been identified as different by researchers from the first year of life when they have a heightened awareness of their surroundings and demand more stimulation from the environment. Therefore, parents and educators should not have the same expectations of them as they have of other children (Morelock, 1996; Silverman, 1997).

All the students involved in the study reported here appeared to feel confident. While two of the six students did not believe that there was anything special about them, three believed that they were special and one thought that everyone had something special about them. PC-6 felt that he was different from the others since he could *"remember almost exactly what the teacher said during the class"* and PC-5 felt that he was special in the sense that he was very good at playing chess, whereas PB-4 saw herself as special since she was very good at drawing.

Gifted children are often mistakenly thought not to have any problems and therefore not to require special attention. It is important to note that they do have special needs and may encounter problems such as emotional coping, peer pressure, parental protectiveness, as well as social and academic needs (George, 1992).

Five of the six teachers felt that parents had very high expectations of their children and all of them advised parents not to place very high expectations on them, or pressure their children. This is also reflected in the children's responses during the interview and their comments in the 'me' boxes that they constructed, for five of the six students reported experiencing some form of pressure from their family members, relatives and friends.

Three of the six students had extra tuition, and even though they did not enjoy it, they were forced to have it by their parents. PC-5 appears to be the only student who did not experience any form of pressure. For (PA-2, PB-3 and PB-4) their mothers appear to place more expectations and pressure on them than their fathers. Similarly, the policy maker also mentioned during the interview, that Singaporean parents place very high expectations on their children and that the MOE constantly faces parents asking for ways to prepare their children to enter the GEP, even though the MOE advises them not to prepare their children for the Screening Tests.

As teaching and learning commences in the home, parents and family play a critical role in the education of the young gifted child and effective parents are those who nurture their young gifted children's creativity; who display low levels of frustration; exercise a suitable amount of flexible control; display confidence in their ability as teachers; and conduct themselves as facilitators of the teaching or learning process (Snowden & Christian, 1999). Hence, the young gifted children's wishes in the study reported here, should be respected, and parents should not place undue stress on their children by forcing them to attend tutoring on top of the heavy program they have in the GEP.

Collaboration between parents and educators is essential, to enable the young gifted children to achieve healthy emotional, as well as intellectual growth. Thus, to fully benefit from this combined effort, it is important that there be congruence of expectations, so that the young gifted children are given appropriate guidance, and to maximise their chances of fulfilling their potential (Webb, 1999).

It is important to note that all the young gifted students reported in this study appear to set very high goals for themselves. When questioned about their most frightening thought, all of them, except for one student, expressed fears in relation to

their academic achievement and of disappointing their family if they were not one of the top students in the PSLE in Singapore.

TC-5 felt that the main disadvantage of the program was that it was often *"viewed as being elitist"* and that there were *"insufficient parents' briefings."* Two teachers (TA-2 and TC-5) felt that there could be some improvements made to the program. TC-6 felt that it was a challenging program, but that it *"pressured children with too much work at times."* TC-6, although not citing any advantages of the program, mentioned that it was too tough, especially in terms of *"time management and workload."*

In line with the teachers' responses, Chinese appeared to be the least favoured subject among four of the six students (PA-2, PB-3, PB-4 and PC-5) because of the level of difficulty involved. It was also noted that all the young gifted children disliked homework in general in the GEP, with Chinese singled out as being very time consuming and difficult. Three of the six students (PA-2, PB-3 and PC-5) also shared similar opinions in their 'Me' box reflections.

During the interview, most of the students also reported that there was too much homework given in the program and three of the six students who had tutoring also stated that they had very little time to do other things after completing the homework given from school and from tutoring. PA-2 appeared to not only dislike the amount of homework given in the program, but also having to stay back after school for meetings. She felt that it gave her very little time to read books, which she enjoyed.

Four teachers (TA-1, TB-3, TC-5 and TC-6) held the very strong opinion that the MOE of Singapore should look into training mainstream teachers to identify giftedness and provide a differentiated curriculum. They stated that this would reduce some of the problems faced by mainstream schools such as boredom among students, students not achieving their full potential, frustration, and an increase in aggressive behaviour among students who are capable of better performance. All the teachers interviewed in the study felt that there could be improvement in the current procedures of identifying young gifted children.

Similarly, all the students who expressed positive feelings towards their teachers in the GEP program, preferred these teachers to the teachers in the mainstream schools. They felt that the GEP teachers were *"more fun to be with"* and that they were more understanding, caring and attentive towards them. They thought that the GEP teachers were *"better trained to provide useful advice"* and that they were more knowledgeable. The students thought that the GEP teachers were better equipped with a variety of teaching methods and that they explored areas in *"greater depth and breadth."* They felt that the GEP teachers were always encouraging the students to brainstorm ideas and to come up with new ways to solve a single problem. The students also felt that the GEP teachers always made sure that the students understood what they were teaching.

When the students expressed their views of their former mainstream teachers, criticisms were that the mainstream teachers *"just read from the textbooks"*; always provided *"boring work"*; were always in a rush to complete the lesson; and discouraged students from posing questions. They also felt that there was insufficient exposure to hands-on experiences in the mainstream classes.

Some of the students expressed strong feelings of displeasure about their experiences in the mainstream classes. PA-1 explained that he was hurt and *"hated it"* when his teacher asked him to *"provide a simpler answer and not use such complicated words."* He stated that he had stopped asking or answering questions altogether, on his own accord, even if he knew the answer, due to the fear of being mocked by the other students as being *"complicated."* PA-2 and PB-3 felt that the mainstream teachers were very impatient and that they were rather *"hot tempered and snappy."*

PA-2 summed it up for all the young gifted students by saying that there should be *"more teachers like the ones in the Gifted Education Program"* and PC-6 felt that the GEP teachers were *"more lenient, kind and friendly."*

All the students appeared to feel strongly that the smaller class size in the GEP allowed the teachers more time to focus on the individual student's abilities and needs, whereas the mainstream teachers, who had about 36 to 40 students in a class, were often pressed for time and too stressed out with their work to concentrate on each individual student.

The GEP teachers believed in educating the young gifted children to be more open, to develop social skills, develop interpersonal skills, leadership qualities, to work collaboratively in a team and be morally upright. The opinions of the six teachers interviewed in the study coincide with the aims of the GEP in developing of young gifted children in a wholistic manner.

The young gifted students also expressed the view that they should be morally upright and that the program helped them to work collaboratively in a team. Their comments and their writings in their 'Me' boxes reveal their concern for their community and the world. They appear to have made several new friends in the program, which suggests the success of the GEP in achieving some of its main objectives.

In fact, from the data gathered in this study, it appears that all but one of the young gifted children had very few friends in their former mainstream schools. Also, four of the six gifted students revealed that they did not keep in touch with former classmates and friends from mainstream schools, except for PC-5 who was still on friendly terms with his former classmates, since he did not have to change schools to join the program. However, in his 'Me' box writings, he reported fewer friends in kindergarten and that he found them very "*childish*."

It may be seen from the gifted students' comments during the interview and from their writings in the 'Me' boxes that all the students have friends in the GEP, with five of the six students stating, that these friends are more understanding. Most of the students cited incidences where they felt left out in the mainstream schools and expressed feelings of hatred and frustration about certain unpleasant incidents that had occurred in the mainstream schools. Some of the students (PA-1, PA-2, PB-3, PC-6) had been called names and been bullied by some of the mainstream students.

All the students agreed that the friends they had made in the program were more understanding and shared several common interests. They found it easier to communicate with classmates in the program. PA-2 stated that the students in the GEP were very loyal and did not pass hurtful comments as some mainstream students in her former school, especially the boys had done. She also stated that she did not have to pretend not to know the answers in the GEP, since she did not have to worry that she would be called the "*smart one*" as some mainstream boys had done in her

former class. Now she was proud to do well in the program. PB-3, with one good friend only in the mainstream school, had felt very lonely and left out whenever her friend was away from school or placed in a different group.

Several studies have indicated that young gifted children, when placed in an environment that is not stimulating or challenging, can easily become bored (Winner, 1996; Kaplan, 1990; Coleman, 1996; Lim, 1994; Plucker, 1994; Callahan, Cunningham & Plucker, 1994; May, 1994; Sowa, McIntire, May & Bland, 1994; Morelock, 1996). Other studies have revealed that young gifted children progress at a higher intellectual level than their age peers, presenting a strong case for early identification and intervention for very young gifted children (Sankar-DeLeeuw, 1999; Kolo, 1999; Gross, 1999; Hertzog & Fowler, 1999; Harison, 1999; Morelock, 1996; Silverman, 1997; Weber, 1999).

In short, the comments made by the young gifted children indicate their preference for the GEP teachers, their teaching methods, the activities provided and the friends and classmates in the program in comparison with the mainstream teachers, teaching methods and activities, as well as the students in the mainstream. They prefer the projects, the various programs offered within the GEP and the many field trips and outdoor activities organised by the teachers in the GEP. They also stated that they were very grateful to be selected to join the program and that they liked the flexible attitude of the GEP teachers.

It is important to note that the opinions of the six teachers interviewed in the study not only coincide with the aims of the GEP in catering for the total development of young gifted children, but are greatly appreciated by the GEP students as well.

5.8 Summary

This chapter presented the background information of the policy maker, the six Primary 4 gifted students and the six GEP teachers. The data were obtained through triangulation using the methods of semi-structured interviews, guiding interview schedules/ questions, document reviews, audio recording and 'Me' box writings of the children. An analysis of the data collected from the participants of the

study reported here and a summary of the children's 'Me' box writings were then presented to answer the three research questions. The following chapter will summarise the whole study, and draw implications for policy and practice, as well as future research.

CHAPTER SIX.

SUMMARY AND CONCLUSION

This study has focused on the three main areas of provision made for young gifted children in Singapore; the roles of the Policy Maker and teachers of Gifted Education in Singapore; and the attitudes and opinions of teachers and children of current Gifted Education provision in Singapore, in answer to the three major research questions. Many important issues have been discussed in the process.

A summary of the major findings of the study and the answers to the research questions are provided in this chapter, along with implications for Policy and Practice and further research; limitations of the study; and recommendations for measures to further increase the achievement of young gifted students in Singapore. The main points discussed in the literature and the important findings of this study are reiterated in this chapter. Since this study involved a small number of informants, generalisation of findings to the population at large is not possible. The researcher also acknowledges that the GEP programs may vary between schools, resulting in some possible variations in children's and teachers' perceptions of the current GEP in Singapore. Individual differences between children may also constitute another confounding variable.

6.1 Summary of the Major Findings of the Study

1. Research indicates that Singapore's education system is frequently criticised by parents and that increasing numbers of children in Singapore are undergoing stress and seeking help from psychiatrists (Jee 2001). Psychiatrists have warned that this trend will continue if the stressful educational environment does not change (Ting, 2001).
2. According to Fleith (1998), young gifted students have received considerable attention as a group that might be vulnerable to suicide. A number of Singaporean students have committed suicide and research suggests that these children have often experienced anxiety and insecurity in their relationships with their parents, with regard to their education (Yeo, 2001).

3. According to a survey conducted comparing stress levels of Singaporean students with those of American and Japanese students in Singapore, one in two Singaporean children cited failing their examinations and not scoring high marks as their greatest fear. Ninety percent of the Japanese children cited losing their parents, while eighty percent of American children said losing their friends was their greatest fear (Davie, 2001).
4. In a face-to-face session with Prime Minister Goh Chok Tong, it was reported that he thought that the average child was doing fine in Singapore, but it was the gifted children who thought that they had under-performed and disappointed their parents, who thought of committing suicide. He also added that parents of children with ability held very high expectations for their children (Ng, 2001).
5. The Prime Minister of Singapore continues to emphasise that the key to continued growth is to seek out talented people and that every Singaporean is competing against the rest of the world due to globalisation. Thus, there is a strong need for emergent thinkers or innovators and Singapore, with its strong reliance on human resources, cannot afford to lose its talented and gifted children (Singapore Government Media Release, 2000).
6. In 1981, the late Dr Tay Eng Soon, then Minister of State for Education, led a mission to study Gifted Education Programs in other countries and this mission further strengthened the belief that there was a strong need to commence a program for gifted children in Singapore (Gifted Education Branch, 2001b).
7. The MOE has no involvement in early identification and provision of the young gifted children who are too young to sit for the Primary 3 Screening Tests (Ministry of Education, 1999).
8. The MOE has no involvement in training early childhood professionals or mainstream teachers in identifying or providing for children who display signs of giftedness in the early years, before they are eligible to sit for the Primary 3 Screening Tests.

9. There are other organisations in Singapore that conduct tests and provide various enrichment programs and talks on gifted education.
10. The current GEP appears to cater for the young gifted children's needs, as they express very positive feelings towards their GEP teachers and the current GEP, in comparison to their former mainstream teachers and the education they received there.
11. However, certain areas of concern were raised by the young gifted students with regard to the current GEP, such as having to sit for the same exam as the other mainstream students and having too much homework. Chinese was also singled out as being too time consuming and difficult.

6.2 Summary of the Answers to the Research Questions

6.2.1 Research Question 1: What Provision is made for Young Gifted Children in Singapore?

1. The GEP has six main goals and they are divided into two main groups: "Meeting pupils' cognitive needs" and "Meeting pupils' affective needs" (Ministry of Education, 1999, p. 4).
2. Enrichment is the chosen means of differentiating the curriculum for the gifted children. The GEP Enrichment Model is drawn from the conceptual models of a number of gifted programs that are offered around the world (Gifted Education Branch 2001f).
3. The GEP aims for the whole development of gifted children through the Affective Education Programme that comprises Civics and Moral education, Pastoral Care and the Community Involvement Programme.
4. Specific needs of the young gifted children are addressed during Pastoral Care by a teacher in the form of small group discussions.
5. Enrichment is accomplished through curriculum differentiation in four areas: content, process, product and learning environment (Ministry of Education, 1999).

6. To facilitate gifted students' re-entry into the mainstream if they wish to withdraw from the GEP, the mainstream school curriculum is the commencing point for the GEP enrichment of gifted children. Hence, the primary GEP students sit the PSLE at the end of Primary 6, together with the mainstream students (Gifted Education Branch, 2001e).
7. On the whole, even though the GEP covers the same syllabus as that covered in the mainstream classes, the topics are explored and covered in greater depth and breadth. More emphasis is placed on creativity and higher order thinking skills and it is more intellectually challenging (Gifted Education Branch, 2001e).
8. Various teaching strategies are used to cater for the different learning styles of the young gifted students in the GEP. Provisions made for discovery learning, open-ended problem solving, small-group discussion and, hands-on experiences. The young gifted children's research skills are also developed through independent study.
9. Capable young gifted children with specific interests are given opportunities in the GEP to pursue projects at advanced levels of involvement and to work with professionals jointly organised by the GE Branch and tertiary institutions or professional organisations in Singapore.
10. The young gifted students are given the freedom to express themselves in a creative manner and they are encouraged to present their work in many forms such as reports, dramas, poems and computer simulations.
11. In the GEP, the learning environment is modified to suit the young gifted children's needs. The teacher is a facilitator rather than an instructor and the environment is more learner-centred. It allows more risk-taking and provides more opportunities for social interaction among the young gifted children. There are many opportunities for out-of-school experiences such as field trips, camps and community involvement programs as well.
12. The main aim of these activities is to develop self-directed, lifelong and independent learners (Gifted Education Branch, 2001h).

13. The GE Branch of the MOE only provides enrichment programs for the selected intellectually gifted children from Primary 4 to Secondary 4. The GE Branch of the MOE does not cater for a child who is too young to sit for the Primary 3 Screening Test. The MOE has no involvement in the identification or provision of young gifted children before age nine.
14. As the GEP is not offered before Primary 4 in any government or government-aided school in Singapore, parents have to search for other means to provide for their gifted children if they suspect that they are gifted.
15. The GEP has no involvement in training the mainstream teachers or the early childhood teachers in identifying the young gifted children who are too young to sit for the Screening Test.
16. The NUS, the Association for Gifted Children, Mensa and the Morris Allen Study Centres are some of the other organisations in Singapore that provide some form of assistance such as counselling, advice, IQ tests or enrichment classes to parents and their gifted children who are too young to sit the Primary 3 Screening Test.

6.2.2 Research Question 2: What are the Roles of the Policy Maker and Teachers of Gifted Education in Singapore?

1. The GE Branch consists of a Deputy Director, two Assistant Directors and a team of specialist officers. The main role of the Branch is to plan, implement and monitor the GEP and to work together with the schools to accomplish the goals of the GEP (Ministry of Education, 1999).
2. The main duties of the team are to: identify and select intellectually gifted students for the GEP; design a differentiated curriculum; coordinate special programs for intellectually gifted students; select and provide appropriate training to GEP teachers; monitor and implement the program in the nine primary schools; and evaluate and conduct research on the GEP (Ministry of Education, 1999).
3. The policy maker oversees the implementation of the GEP in the nine primary GEP schools and his main role is to: implement and monitor the primary

GEP; implement the enriched curriculum; supervise research; evaluate, construct and administer tests to select pupils for the GEP.

4. To ensure that the GEP teachers are capable of accommodating and achieving the GEP's goals and objectives, the MOE has a strict selection procedure for recruiting teachers into the GEP.
5. Furthermore, the selected teachers are regularly observed teaching gifted children in their classrooms so as to monitor the effectiveness of their teaching strategies; skill in questioning and responding to students' questions; tolerance for the gifted children's curiosity; and patience with gifted children.
6. The minimum qualifications required for the primary GEP teachers are the General Certificate of Education, 'A' Level Certificate and a Diploma-in-Education (Ministry of Education, 1999).
7. Gifted education specialists and overseas consultants conduct workshops locally and provide ongoing training, conferences and seminars to allow ample opportunities for the GEP teachers to share their experiences and teaching methods, gain new ideas and become aware of the latest developments in research related to the gifted education field.
8. GEP teachers with more than 3 years experience in the program are required to complete the two courses of, 'Curriculum Differentiation for the Gifted' and 'Affective Education for the Gifted' (Gifted Education Branch, 2001k).
9. GEP teachers are sometimes sent overseas for courses in the field of gifted education or on attachment to gifted education programs (Ministry of Education, 1999).
10. A crucial role of the GEP teacher is to provide a differentiated curriculum, thus accommodating learning differences in gifted children.
11. The GEP teacher's main role is to be a facilitator rather than an instructor; to make the classroom environment more learner-centred; to encourage the gifted children to talk, interact among themselves in pairs or in groups; and to provide greater physical mobility within the classroom (Ministry of Education, 1999).

12. All the teachers reported in the study perceive their role as facilitators and organise various enrichment activities for young gifted students.
13. GEP teachers believe in lifelong learning and continuously attend workshops and conferences on gifted education and collect information about various teaching practices used locally and globally.
14. GEP teachers search and gather useful and challenging materials and resources for young gifted children.
15. Advice and counselling is provided by GEP teachers to the young gifted students and their parents when necessary, in relation to their academic achievements and performance in class.
16. Parents are informed of useful resources and workshops on gifted education.
17. Careful observations are carried out constantly of the young gifted students. Children who display any signs of concern are referred to the In-house counsellors or to private psychiatrists.
18. The GEP teachers also appear to recognise the importance of conducting lessons and activities at a pace and level which is suitable for all the young gifted children in their classrooms and emphasise the importance of being well prepared, organised and enthusiastic.
19. Some positive outcomes identified by the GEP teachers of being well organised are the prevention of unnecessary distractions from taking place or boredom among the students. They also appear to feel that this assists them in presenting the lessons at a much faster pace that is better suited to the higher levels of these gifted students.
20. The teachers foster socialisation among the gifted students by providing various activities within the classroom and outside the school to develop socialisation skills among the young gifted children. Activities most commonly mentioned by the teachers were "*the orientation program, pair work, group discussions, group projects and group presentations, camping and excursions*". Other activities included organising birthday parties, Assembly Items and the Racial Harmony Day.

21. All the teachers appear to feel rather strongly that it is essential that they help to create a friendly and warm environment and that they encourage competition among students in a friendly manner that prevents any hostility or jealousy from taking place.
22. The GEP teachers are very committed to teaching gifted children and frequently make use of other teachers in the GEP as resources, especially to provide a variety of enriching and intellectually stimulating and challenging activities and lessons.
23. The GEP is also committed to being attentive to the gifted students' varying needs. They organise the children into different groups according to their abilities and at times provide activities that are specially tailored to each group's abilities.
24. All the young gifted children reported in the study here expect their teachers to facilitate learning for all children. They expect them to be kind, understanding and approachable. They expect their teachers to know their work well, to possess strong content knowledge prior to teaching them and to encourage risk-taking. They expect teachers to provide ample hands-on experience and interesting, fun activities and to be creative.
25. On the whole, the teachers perceive their roles to be facilitators; advocates of lifelong learning; useful resource gatherers; providers of enriched differentiated curriculum; observers; counsellors; enthusiastic, animated and passionate teachers of young gifted children; and to foster socialisation among the gifted children. It is important to note that their perceptions of a GEP teacher are congruent with those of the MOE in Singapore, the policy maker, the young gifted children reported in the study and researchers around the world.

6.2.3 Research Question 3: What are the Attitudes and Opinions of Teachers and Children of Current Gifted Education Provision in Singapore?

1. In terms of recruitment of the GEP teachers, the teachers interviewed in the study reported here feel that fresh graduates lack experience; that the selection procedure for GEP teachers is of a high standard and is based on the selection

officers' standards; but that the selection procedure should be amended since some of the officers are stricter than others, which causes the likelihood of inconsistency in the selection of teachers.

2. In terms of the selection procedure for young gifted children into the GEP, four teachers (TA-1, TB-3, TC-5 and TC-6) hold the very strong opinion that the MOE of Singapore should look into training mainstream teachers to identify giftedness and provide a differentiated curriculum.
3. All the GEP teachers agree that failure to do so will increase the problems being faced by many mainstream schools such as boredom among students, students not achieving their full potential, frustration and an increase in aggressive behaviour among students who are capable of better performance.
4. They also believe that early identification is possible if teachers from the mainstream schools are properly educated in identifying gifted children and in conducting observations.
5. It is suggested that parents and psychologists be included in the identification procedure by two teachers (TA-1 and TB-4). A face-to-face interview with children who display signs of giftedness in the early years before the primary 3 Screening Test is also suggested by another teacher (TC-5). Yet another (TA-2), suggests including mother tongue subjects in the Screening Tests.
6. All the GEP teachers interviewed in the study reported here share a common belief that young gifted children have special needs. In terms of early identification, the teachers have differing views with two teachers (TC-5 and TC-6) strongly supporting early identification, while another two (TA-2 and TB-4) oppose it. One teacher also feels that early identification should include specific and not general ability.
7. Four of the six teachers have never felt intimidated by the gifted children whilst the other two teachers (TC-5 and TC-6) appear to have felt intimidated initially only, on first joining the program.
8. The teachers believe that the children should learn to be more open, develop social skills, develop interpersonal skills, leadership qualities, work collaboratively in a team and be morally upright. These opinions are

congruent with the aims of the GEP in taking a wholistic view of the development of young gifted children.

9. Five of the six teachers interviewed welcome parent participation and feel that there should be more programs organised to include parents.
10. All the teachers except for one (TB-3) do not mind parents approaching them for advice, but they discourage parents from being overly concerned with their children's grades and welcome those parents who seek more information on coping with their children's giftedness. TB-3 is the only teacher who has not experienced parents approaching her for advice in terms of their children's grades or performance in class.
11. The teachers feel that most of the gifted children have problems coping with their parents' expectations and advise parents not to pressure their children. They feel that the MOE should look into organising more programs on ways in which parents can assist their gifted children.
12. Of the three schools, two schools (SCH-A and SCH-B) appear to have more parental involvement. Parents help out with the children's Chinese Language at home; newsletters are sent out to parents to inform them of any upcoming events; and feedback forms are given regularly when the children first join the program. The two teachers from SCH-C feel that there should be more involvement of parents in their school.
13. All the students reported in the study here have diverse favourite pastimes such as surfing the net, working on challenging mathematics quizzes, playing the piano, acting, playing basketball, chess and cycling. All the children enjoy reading books, although the types of books they enjoy varies.
14. Five of the six students appear to find their younger siblings to be irritating or annoying and prefer to hang around with their older siblings.
15. Three of the six students have a member of their family who was also offered a place in the GEP and who is in the program. All the students have some form of support from their family members with their schoolwork.
16. Three of the six students receive extra tuition and do not enjoy it. Five of the six students have experienced some form of pressure and high expectations

from family members, relatives and friends. PC-5 appears to be the only student who has not experienced any pressure. For PA-2, PB-3 and PB-4 their mothers appear to place more expectations and pressure on them than their fathers.

17. The thought of either failing or disappointing a family member is the most common fear given by five of the six students. PC-5 is the only student who mentioned issues such as global warming, pollution and flooding, causing the world to come to an end, as the most frightening thought for him.
18. All the students reported in the study enjoy working on the various projects given to them in the GEP. They appear to learn many new skills such as conducting research, being creative and innovative, analysing and developing different writing skills, and using higher order thinking skills. They consider these projects to be fun, interesting, challenging and motivating. All the students appear to find working on the social studies project particularly enjoyable.
19. Mathematics and English appear to be the favourite subjects for most of the students whereas, Science and Physical Education appear to be the favourite subjects for two students. Chinese appears to be the least favoured subject because of the level of difficulty involved and Science and Music are also disliked due to the students' dislike of the teachers. The children's reasons for their likes and dislikes of the subjects appear to be connected to their perceptions of the subject teachers.
20. The children report a dislike of set homework in general and Chinese in particular due to it being very time consuming and difficult, taking time away from more enjoyable pursuits.
21. PA-1 and PC-5 are the only two students who differ in their opinion of exams. PA-1 likes exams and PC-5 feels that they are necessary. However, all the children feel that it is an unfair system to have mainstream and GEP students sitting for the same PSLE and most of the students reported in the study appear to dislike exams in general and feel that the exams are very difficult. This may be linked to their fear of not being the best.

22. The GEP students appear to favour the challenging, friendly environment and attitude the teachers display towards them, as well as the smaller class size that allows more individual attention. One student wishes that all students could be included in a program like the GEP.
23. The heavy workload and homework given in the program is disliked by the GEP students with Chinese singled out for special mention due to it being too time consuming and difficult.
24. The students have positive feelings towards their teachers in the GEP program and prefer the teachers in the program to the teachers in the mainstream schools. Reasons given are that the GEP teachers are more understanding; fun to be with; and provide more challenging and interesting activities in contrast to the mainstream teachers who are rather boring and give work that is neither challenging nor interesting.
25. All the students have several friends in the program and five of the six students appear to feel that these friends are more understanding. Four of the six students do not keep in touch with former classmates and friends from mainstream schools. One student (PC-5) appears to have never felt left out. All the other students seem to have experienced unpleasant incidents in the mainstream school or have experienced feelings of loneliness or harassment from former classmates, either in their preschool or primary school before they were selected to join the program. PB-4 feels left out at home when her mother has her friends over.
26. On the whole, all the students expressed preference for the GEP over the mainstream schools due to the interesting, creative teaching methods used in the GEP; the positive attitudes of the GEP teachers; the challenging and enriching activities provided in the program; the smaller class size which enables more individual attention; and the positive and understanding attitudes of their classmates. However, all the students appear to dislike the heavy workload and set homework given in the program.

27. All the students are confident in themselves. While two of the six students do not believe that there is anything special about them, three believe that they are special and one feels that everyone has something special about them.

6.3 Implications

The findings of the study reported here give rise to a number of implications for policy, practice and future research. The recommendations incorporate suggestions offered by the young gifted students, the GEP teachers and other research findings where relevant. The study reported here is a case study and as such is not concerned with generalisability. However, this study provides preliminary findings that may be used as the basis for further research to be undertaken. Hence, a large-scale study and direct observations of the gifted children and their teachers in their natural settings, which was not possible here due to time constraints, may assist in validating the findings of this study.

6.3.1 Implications for Policy, Practice and Future Research

I. Parent Education and Participation

Since the workload is heavy and challenging in the GEP, the MOE advises parents not to arrange tutoring at home for their children (Ministry of Education, 1999). However, it appears from the data gathered in the study reported here, that three of the six gifted students receive extra tuition at home, even though they have expressed their dislike of it to their parents and lack of free time to pursue their own interests and engage in reading which they all find motivating.

This indicates, as suggested by the GEP teachers, that the MOE should consider promoting and encouraging parent participation in areas other than the children's academic performance.

It is recommended that the MOE organise more programs to assist parents to better cater for their children's giftedness. Newsletters could be sent to parents on a regular basis, together with the brochures that are sent to them when the children first

join the program, giving details of the latest developments in gifted education and upcoming seminars and conferences.

II. Include parents in the gifted education seminars and conferences organised by the GE Branch of MOE

All the teachers reported in the study here found the workshops, seminars and conferences organised by the GE Branch very useful in building their knowledge of the characteristics of young gifted children; appropriate ways to educate them; and resources available globally and locally. Hence, the MOE should send invitations to the parents to attend such seminars and conferences on gifted education in order to increase their understanding of what giftedness is and appropriate ways of dealing with their children's giftedness.

III. Provide information on other gifted education institutions in Singapore

Parents could also be made aware of organisations in Singapore such as NUS, Mensa and the Morris Allen Study Centres that provide advice and assistance to the parents of young gifted children.

IV. Investigate the causes of the current stressful education system and the rise in the number of young children consulting psychiatrists and committing suicide

All the young gifted students except for one (PC-5) indicated that they had experienced some form of pressure from their family and relatives. They were also very concerned about disappointing their parents if they did not do well in the PSLE and worried about facing their parents if they did not meet up to their parents' expectations. Also, the Straits Times has continually published articles indicating that there is an increasing number of children in Singapore who are getting help from psychiatrists and that the psychiatrists have warned that this trend will continue if the children's stressful environment does not change. Another concern for many Singaporeans springs from young students committing suicide over their grades especially their PSLE results (Ting, 2001; Yeo, 2001; Lau, 2001). Further research is necessary to determine the causes of this situation in Singapore.

V. Organise programs for parents and teachers to detect early signs of stress and depression in young gifted children

Parents and teachers should be educated to detect early signs of fatigue and stress in young children. Several researchers have tried to discover situations, experiences or characteristics that increase the likelihood of a child committing suicide (Blumenthal, 1990; Davidson & Linnoila, 1991; Pfeffer, 1989). Some possible areas of preventative action could be educating parents to provide more personal attention to students and to teach their children to accept failure; organising support groups for parents with gifted children; and increasing resources for parents.

A top student in primary 4 who was unhappy with the stressful life she was leading as a student wanting to excel, committed suicide in Singapore. The state coroner John Ng in his verdict of suicide stated that there is an impelling need to educate young children to learn to accept failures and disappointments, especially in relation to their academic life, since it is part and parcel of growing up (Lau, 2001). The student had spoken jokingly to her friends that she would kill herself if she did not do well in her first Higher Chinese examination. She had expressed concern to her classmate that she was worried that she had not completed her schoolwork during the June holidays. She had also complained to her father of having too much homework. However, she did not want her father to talk to her teacher. She had also mentioned to the family's maid that she did not want to be reincarnated as a human being because she did not want to go to school, do homework, get scolded and argue with siblings (Lau, 2001). As mentioned earlier in the literature review chapter, bright youngsters who are emotionally stressed, are vulnerable to suicide (Fleith, 1998).

The MOE should organise programs to educate parents and teachers to detect signs of depression and potential suicide. Teachers and parents should work collaboratively in identifying students who are depressed and who display suicidal behaviour. If a student appears to be stressed or passes comments that indicate possible signs of despair, or behavioural changes, teachers should notify the student's parent immediately. The student should be observed closely and should not be left unattended. It is important for the teachers, in-house counsellors and parents to let the student know that they are all concerned about his or her welfare. As suggested by

Guetzloe (1989), students who are considering suicide as the only option or who are deeply depressed, might misinterpret failure to respond, as a lack of caring.

The GEP teachers appear to be trained in observation to a certain extent and they also seem to recognise the importance of observing young gifted children closely. However, in the study reported here, the students expressed strong feelings of dislike for the homework given in the program, with Chinese singled out as being too time consuming and difficult. They appeared to feel that the workload was excessive. They also appeared to be overly concerned about the PSLE and stated that it was unfair to sit for the same exam as the mainstream students. They set very high goals for themselves and indicated that their greatest fear was failing their exams and disappointing their family. Collectively, these factors add up to high levels of stress placed on these students: a situation that requires close monitoring.

VI. Investigate the appropriateness of the homework given to students in the Gifted Education Program

Further research is necessary to investigate the amount and type of homework given to the young gifted children in the program and the effect of such homework on their motivation and creativity. Such a research investigation would determine if more effective use could be made of gifted students' home time in fostering their divergent thought, creativity and learning.

VII. Investigate the expectations and attitudes of the parents of gifted children

The core reality is that parents are the potentially gifted children's first educators and therefore, it is essential that their voices be heard (Haensly, 2001). Their voices will inform, generate new ideas and suggest areas for further development. In the study reported here, time constraints precluded the researcher investigating the attitudes and perceptions of the parents of the young gifted children involved. Hence, further research should investigate parental perceptions and expectations of the current GEP on a large scale to determine the degree of congruence between their expectations and those of the MOE, teachers and gifted students.

VIII. Provide more independent projects in individual students areas of interest

In light of the fact that students all reported the Chinese homework difficult and too time consuming, in comparison to subjects such as English and Social Studies, consideration should be given to ways of making the Chinese homework more creative and interesting by integrating it with English and Social Studies. For example, students could be required to compose a poem in Chinese. In addition, more independent projects should be provided in freely chosen areas of interest to extend students' knowledge in an interesting and enjoyable manner.

IX. Implement a separate exam for young gifted children

The MOE believes that it is necessary to provide a more enriched curriculum that is covered in greater depth for gifted students. However, the MOE also believes that it is important that the gifted students sit for the same national exam at the end of their GEP in Primary 6 so as to be able to switch back into the mainstream if they are not pleased with the GEP or experience difficulty coping with the requirements of the program. The students and teachers interviewed in the study reported here felt that this was unfair to the GEP students, as well as to the mainstream students. The gifted students reported feeling frustrated at sitting for the same paper as the mainstream students after going through a different program that is far more challenging and detailed. Consideration needs to be given by the MOE to setting a separate exam for the gifted children that incorporates material from the PSLE but also goes beyond it to cover higher order and divergent thinking skills.

X. Identify young gifted children early and provide a differentiated curriculum tailored to their abilities and needs

The MOE of Singapore recognises that children have varying abilities and that it is not an appropriate practice to provide every child with the same education. The MOE also recognises that it is not fair to expect every child to move at the same pace as his/her age peers (Ministry of Education, 2001).

According to Stephens, Blackhurst and Magliocca (1982) mainstream classrooms might represent the least restrictive environment for several children, but be the most restrictive environment for young gifted children. The mainstream

classroom, which is often seen by many as the most appropriate environment for gifted children to receive their education, has been condemned by several researchers who have a commitment to gifted education, as a mere waste of time for them (Moltzen, 1998). For young gifted children, social adjustment is often the most challenging task, especially in the childhood and early adolescent years (Hollingworth, 1942; Morelock, 1992).

Hence, it is essential that when children present advanced abilities and strengths during the early childhood years, they be provided with a curriculum that best suits or matches their abilities, so that their potential can be maximised.

XI. Provide appropriate teacher training for early childhood and mainstream teachers in gifted education

During a television interview with several gifted children from Western Australian schools, most of the gifted children agreed that the mainstream teachers did not really focus on them, but on below average students. As the gifted students indicated during the interview, what is needed is an appropriate teacher training program for mainstream teachers, for they mentioned on several occasions, that the teachers did not know how to identify gifted students and did not believe that gifted students needed help ("A Current Affair", 2001).

Similarly, the data gathered in the study reported here, indicates that the young gifted students experienced some harsh, unpleasant comments and unpleasant incidents in their former mainstream schools from several of their former classmates and from some mainstream teachers. All the students found the work given in the mainstream school boring and even "childish". They had experienced loneliness and feelings of hatred and despair in the mainstream school. One of the students had stopped answering questions altogether and another one admitted pretending not to know the answers even when she did. This indicates that further research should be carried out, not only with the other GEP students and teachers but also with the mainstream teachers and mainstream students. This will assist in understanding the attitudes and perceptions of the mainstream teachers and students towards children with high academic abilities. It is also necessary to determine if there are more children in Singapore's education system who experience such unpleasantness.

All the teachers interviewed in the study reported here feel that there could be improvement in the current identification procedures of young gifted children. Early childhood teachers and mainstream teachers should be educated by the MOE to detect signs of giftedness in children during the early years. The GEP teachers believed that the lack of training and provision of a differentiated curriculum for young gifted children in the early years were the main reasons for several problems in schools. They also agreed that early identification was possible and that it should be introduced so as not to overlook any young gifted children.

The implications from these findings are that the MOE should ensure that all teachers, including mainstream teachers, are adequately trained to provide appropriately for students of all levels, so as to prevent boredom among young gifted students who are too young to sit for the primary 3 screening test. They should have sufficient background knowledge of gifted education and appropriate teaching strategies for students of higher abilities to prevent undue frustration, disruption, aggressive behaviour and stress among young gifted students in mainstream schools.

XII. Use a combination of methods to identify young gifted children who are too young to sit for the primary 3 screening tests

As physical, social and cognitive development in young children is rapid and uneven, early identification is often considered to be the first obstacle, preventing many educators from taking the first step in assisting their gifted students. Authentic early identification requires a combination of methods such as parent and teacher nominations, evaluations of school work that could include artistic and creative achievements, as well as academic tasks in class; portfolios shared by parents of children's projects at home; interviews with parents and community; and observations of children at play (Smutny, 1999; Clark, 1997; Roedell, Jackson & Robinson, 1980; George, 1992).

Therefore, the MOE should seriously consider including early childhood teachers, mainstream teachers, parents and psychologists in the selection procedure, since the parents and the educators know their students well, and a combination of methods would be very useful for authentic early identification of gifted students.

The findings of the study reported here reveal that the young gifted children had positive feelings towards their teachers in the GEP program and that they

preferred the GEP teachers to those teachers in the mainstream schools. Indeed, comments about their former mainstream teachers and classmates were mostly negative.

This implies that few of the mainstream teachers are aware of the many characteristics of gifted children, indicating a need for early childhood and mainstream teachers to receive training in identifying and providing a more suitable environment for young gifted children. The MOE should invite mainstream teachers to attend their seminars and conferences on gifted education, in order to deal with children who display signs of giftedness.

This will enable mainstream teachers to be aware of possible problems that young gifted children could face in regular classrooms, as reported by most of the children interviewed in this study. Appropriate methods to educate gifted students in their classrooms will be acquired along with the need to respect individual differences and avoid name calling, harassment or isolation of students with exceptional abilities.

XIII. Train all teachers to detect signs of harassment, respect individual differences, avoid exploitation and provide appropriate role models

Respect for intellectual diversity is essential. Research suggests that “taunts” of young gifted children such as calling them “nerds” are common (U.S. Department of Education, 1993, p. 13). Most of the young gifted children involved in this study were called names and taunted in their former mainstream schools. Such slurs should not be allowed in schools, just as racial and gender discrimination are not permitted in Singapore’s schools.

The MOE should therefore:

1. educate mainstream teachers to detect any signs of harassment and should assist teachers to teach their students to respect, not only cultural differences, but also differences in ability and interests;
2. train the mainstream teachers to avoid exploiting young gifted children by using them as a class monitor or teacher’s assistant; and
3. educate the mainstream teachers to provide appropriate role models for their students.

XIV. Investigate the degree of congruence between the mainstream teachers' and the MOE's expectations of teacher roles

The gifted student informants in this study reported that the mainstream teachers were mostly strict, boring, hot tempered, disliked questions being asked and were unaware of the young gifted students' needs. On the other hand, the GEP teachers were considered to be understanding, kind, lenient and approachable. The MOE expects that GEP teachers should have a passion for teaching gifted children; that they should foster socialisation; be good role models; advocate life long learning; and facilitate the learning of all children (Ministry of Education, 1999). The study reported here found congruence between the MOE's and the teachers' perceptions of their roles as GEP teachers. Hence, it is pertinent that further research investigate the perceptions of mainstream teachers to determine the degree of congruence between the expectations of mainstream teachers and the MOE regarding teacher roles.

XV. Implement mixed ability classrooms or reduce mainstream class size

All the students and the GEP teachers interviewed in the study reported here feel strongly that the smaller class size in the GEP is one of the most positive elements of the program. They feel that it allows the GEP teachers more time to focus on the abilities and needs of individual students. As the mainstream teachers have about 36 to 40 students in a class it would be difficult for them to concentrate on each individual student. This can cause undue stress to the teachers and to the gifted students.

Research suggests that age-appropriate placement is not developmentally appropriate for gifted children and that multi-age grouping, especially of intellectual peers, is more appropriate in increasing positive social interaction among the gifted children (Conn, 1992; Hollingworth, 1926; 1942; Elkind, 1988; Gross, 1993; Terman, 1925; Silverman, 1989, Webb, Meckstroth & Tolan, 1982).

Hence, it is recommended that the MOE:

1. consider the introduction of mixed ability groups to mainstream classrooms; and
2. reduce the number of students in each mainstream classroom.

This will enable the mainstream teachers to divide the children into groups of different abilities and thus be able to better cater to the students' needs. As suggested by Rogers (1991), there are certain guidelines that teachers can use when considering groupings:

1. Young intellectually gifted students should be allowed to spend the majority of their time in school with other students who are of similar abilities and who share similar interests.
2. They should be grouped according to their abilities and should be provided with instruction that is suitable to their level.
3. They should be allowed to explore content that involves various acceleration based options that could be offered within their ability groups or on an individual basis.
4. They should be provided with various forms of enrichment that extends the usual prescribed curriculum for mainstream students.
5. Mixed ability groupings should be organised sparingly to develop the young gifted children's social skills.

6.4 Recommendations for Parents

I. Parents of potentially gifted children should learn to record observations of their children

Young gifted children do not develop evenly and they frequently display peaks of extraordinary performance, rather than equally high skill levels in all cognitive areas (Roedell, 1990). Parents, and even grandparents who live with the young potentially gifted children, can assist in identifying them by providing valuable information through long range observations of their children. This will be especially useful in clarifying the nature and levels of the young gifted children's abilities and helping to construct the pathway to effective educational programs and services (Feldhusen, 2001).

II. Parents should encourage the development of their children's giftedness

Most parents of potentially gifted children greet the discovery that their child might be gifted with mixed feelings of pride, excitement, and fear (Tolan, 1990). Parents who fear that their gifted children are not emotionally balanced, might not want to acknowledge their potentially gifted children's talents because they do not want to be ostracised by society or called a pushy parent (Porter, 1998)

Parents need to encourage, challenge and stimulate their potentially gifted children, for their early years are the critical period of their lives. It is the foundation for future academic success and failure to foster a love of learning can contribute to underachievement (Education Department of Western Australia, 1997). Hence, parents should seek assistance in how best to encourage and foster their child's giftedness.

III. Parents should seek information and assistance

In Singapore, there are various organisations that provide enrichment programs for children in their preschool years. Many of the young gifted children in this study had experienced unhappiness and loneliness in their early childhood years and had found the environment boring and unchallenging. Parents who suspect that their child might be gifted should seek out private psychologists who are available at NUH and at Mensa to assess their children. They should also set aside time to attend presentations and seminars organised by organisations such as the NUS, Mensa, the Morris Allen Study Centres and the Association for Gifted Children to acquire knowledge of how best to support their children.

IV. Parents should be aware of their child's abilities and should adjust their expectations to reasonable levels

It is important to remember that young gifted children who possess unique abilities and skills in one or two subject areas might be relatively less able in others (Ministry of Education, 1999; Roedell, 1990). Parents should realise that scoring straight A's in all subject areas is not the goal of the current GEP in Singapore. The young gifted children should be allowed to work at their personal best, which is the main goal of the GEP (Ministry of Education, 1999).

Prime Minister Goh Chok Tong reported that he thought parents of children with high ability had unrealistically high expectations of their children and that it was the gifted children who thought that they had under-performed, disappointed their parents and thought of committing suicide (Ng, 2001). Since the policy maker interviewed in this study declined to comment on the report made by the Prime Minister Goh Chok Tong and as the researcher did not have permission to interview the psychologists, it was not possible to determine if there were any links between the increase in psychological problems with young gifted children and unrealistic parental expectations. Further research is needed to determine if such a link exists.

Certainly, the study reported here revealed that the parents of the young gifted children had very high expectations of them and the children were very concerned about being the top students in the PSLE and not disappointing their parents. The teachers involved in the study also reported parents approaching them with regard to their children's academic achievements, even though the MOE clearly states in its handbook for parents and educators that "lower scores may be expected for some areas in the pupil's school work even though they are as hardworking as before" (Ministry of Education, 1999, p. 28).

Hence, it is crucial that parents understand their children's unique capabilities and weaknesses and adjust their expectations accordingly, to prevent undue stress due to unrealistic expectations.

6.5 Conclusion

The GEP teachers, who are facilitators of gifted education, and the mainstream teachers should view themselves as team members and work collaboratively. Each group should value the contribution of the other to the education of young gifted children in Singapore. Based on Vygotsky's theoretical framework and the conceptual framework used in the study reported here, gifted students are rapid learners. They reap benefits when they work with more capable peers and when they receive instruction from more capable adults. Hence, policy makers, teachers, parents and other competent peers have an important part to play in guiding the children's progress in developing their potential in various talent areas

and in providing a differentiated curriculum to meet their individual social and academic needs. GEP teachers should consult with mainstream teachers to instil confidence and to share valuable information about giftedness and relevant teaching strategies and skills to employ (Jenkins-Friedman et al., 1984).

For most young gifted children, their childhood is pleasurable and fulfilling when their environment is enriching and stimulating. They demand challenge and derive pleasure from it. However, for some gifted children, childhood is more painful, more isolated and more stressful because of their inability to fit in with their age peers and because of the very high expectations placed on them (Freedman & Jensen, 1999; Roedell, 1990; Tolan, 1990).

Hence, it is important that young gifted children are identified early and provided with the most suitable environment that stimulates, challenges and fosters socialisation, for “giftedness is a greater awareness, a greater sensitivity, and a greater ability to understand and transform perceptions into intellectual and emotional experiences” (Roeper, cited in Silverman 1999, p. 188).

If Singapore is to compete in the global arena, as suggested by the Prime Minister of Singapore in his National Day Rally Speech 2001, the MOE of Singapore needs to seriously consider the issues raised in the study reported here. Such considerations include:

1. educating the parents of young gifted children to accept their child’s abilities and weaknesses; to avoid pushing them beyond their capabilities, or overlooking their abilities altogether for fear of being ostracised by society;
2. educating mainstream teachers to identify potentially gifted children in the early years; and
3. providing an appropriate curriculum for young gifted children, similar to the existing GEP provided for the Primary 4 gifted students.

These measures are important if Singapore is to avoid losing the nation’s young gifted children due to lack of challenge, boredom, frustration, harassment from others, isolation or underachievement.

As suggested by Roeper (1989, cited in Silverman, 1999) it is important to bear in mind that:

The gifted are global thinkers and are apt to see the whole before they concern themselves with the details. The gifted are complex thinkers and are better able than others to discern the intricacies of interdependence. They are concept-oriented and have an enormous desire to make sense of this world, to master it, and to make an impact on it. They are also research-minded; they want to find out because of their inner need for intellectual and emotional order. They are interested in the past and are very concerned with the future.

All of these characteristics lead them toward the concept of interdependence. It is now up to us to open the door for them and help them make sense of these concepts. The gifted are our hope for the future. They are our hope for the discovery and development of the laws of interdependence, which will enable them to lead this world toward a better future (p. 188).

REFERENCES

- A Current Affair: An interview with gifted children. (Television Program). (2001, November 15). Australia: Channel 9.
- Alsop, G. (1997). Coping or counselling: Families of intellectually gifted students. Roeper Review, 20(1), 28-34.
- Archambault, F., Westberg, K., Brown, S., Hallmark, B., Zhang, W., & Emmons, C. (1993). Classroom practices used with gifted third and fourth grade students. Journal for the Education of the Gifted, 16(2), 13-28.
- Bamburg, J. (1994). Raising expectations to improve student learning. Oak Brook, Illinois: North Central Regional Educational Laboratory.
- Berk, L. E. & Winsler, A. (1995). Scaffolding children's learning: Vygotsky and early childhood education. Washington D. C.: National Association for the Education of Young Children.
- Bishop, W. E. (1968). Successful teachers of the gifted. Exceptional Children, 34, 317-325.
- Blumenthal, S. (1990). Youth Suicide: The Physician's Role in Suicide Prevention. Journal of the American Medical Association, 264(24), 3194-3196.
- Bogdan, R. C. & Biklen, S. K. (1992). Qualitative research for education: An introduction to theory and methods (2nd ed.). Boston: Allyn and Bacon.
- Bruner, J. (1985). Vygotsky: A historical and conceptual perspective. In J. V. Wertsch (Ed.), Culture, communication, and cognition (pp. 21 – 34). Cambridge: Cambridge University Press.
- Buescher, T. M. & Higham, S. (1996). Helping adolescents adjust giftedness [on-line]. Available WWW: http://www.kidsource.com/kidsource/content/adjust_to_giftedness.html [2000, November 10].
- Burns, R. B. (2000). Introduction to research methods (4th ed.). New South Wales, Australia: Longman.
- Callahan, C. M., Cunningham, C. M. & Plucker, J. A. (1994). Foundations for the future: The socio-emotional development of gifted, adolescent women. Roeper Review, 17(2), 99-105.
- Chan, D. W. (2001). Characteristics and competencies of teachers of gifted learners: The Hong Kong teacher perspective. Roeper Review, 23(4), 197-201.
- Christian, J., Denzin, P., & Betts, G. (1993). Model of the role of the facilitator of the autonomous learner. Greeley, CO: University of Northern Colorado.
- Clark, B. (1997). Growing up gifted (5th ed.). New Jersey: Prentice-Hall Inc.

- Cohen, L. M. & Kim, Y. M. (1999). Piaget's equilibration theory and the young gifted child: A balancing act. Roeper Review, 21(3), 201-206.
- Coleman, M. R. (1996). Exploring options: Recognizing social and emotional needs of gifted students. The Gifted Child Today, 19, 36-37.
- Conn, M. (1992). How four communities tackle mainstreaming. The School Administrator (February, 1992), pp. 22-24.
- Cox, J., Daniel, N., & Boston, B. (1985). Educating able learners: Programs and promising practices. Austin, TX: University of Texas Press.
- Cross, J. A., & Dobbs, C. (1987). Goals of a teacher training program for teachers of the gifted. Roeper Review, 9, 170-171.
- Csikszentmihalyi, M., Rathunde, K. & Whalen, S. (1993). Talented teenagers: The roots of success and failure. New York: Cambridge University Press.
- Cupertino, C. M. B. (1998). Discovering feelings: An activity for second graders. Gifted Education International, 13(2), 140-149.
- Davidson, L., & Linnoila, M. (1991). Risk factors for youth suicide. New York: Hemisphere.
- Davie, S. (2001, March 03). End streaming to reduce stress, urge parents. The Straits Times, pp. H13.
- Davis, G. A. & Rimm, S. B. (1998). Education of the gifted and talented (4th ed.). Boston: Allyn and Bacon.
- Delisle, J. R. (2001). How do we know if gifted children are being served appropriately? [on-line]. Available WWW: <http://www.sengifted.org/served.htm> [2001, September 08].
- Education Department of Western Australia. (1997). Exceptionally able children: Guidelines for early childhood years. Perth: Education Dept. of W.A.
- Elkind, D. (1988). Acceleration. Young Children, 43(4), 2.
- Feinburg, S. & Mindess, M. (1994). Eliciting children's full potential: Designing & evaluating developmentally based programs for young children. Pacific Grove, California: Brooks/ Cole.
- Feiring, C., Louis, B., Ukeje, I., Lewis, M. & Leong, P. (1997). Early identification of gifted minority kindergarten students in Newark, NJ. Gifted Child Quarterly, 41(3), 76-81.
- Feldhusen, J. (2001). The role of grandparents in talent recognition and development. Gifted Child Today, 24(3), 25-35.

- Feldhusen, J. F. & Jarwan, F. A. (1993). Identification of gifted and talented youth for educational programs. In K. A. Heller, F. J. Monks & A. H. Passow (Eds.), International handbook of research and development of giftedness and talent (pp. 233-252). Oxford: Pergamon.
- Feldhusen, J. F. (1985). The teacher of gifted students. Gifted Education International, 4, 41-42.
- Fleith, D. D. S. (1998). Suicide among talented youngsters: A sociocultural perspective. Gifted Education International, 13(2), 113-120.
- Freedman, J. & Jensen, A. (1999). Joy and loss: The emotional lives of gifted children [on-line]. Available WWW: <http://www.kidsource.com/kidsource/content4/joy.loss.eq.gifted.html> [2000, September 08].
- Gallagher, J., Harradine, C. C. & Coleman, M. R. (1997). Challenge or boredom?: Gifted students' views on their schooling. Roeper Review, 19(3), 132-136.
- George, D. (1992). The challenge of the able child. London: David Fulton Publishers.
- Getforme. (2001). Prime Minister's national day speech 2001 [on-line]. Available WWW: http://www.getforme.com/previous250801_PmsNationalDayRallySpeech2001.htm [2001, October 11].
- Gifted Education Branch. (2001a). Other FAQs [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/faq_oth.htm [2001, September 10].
- Gifted Education Branch. (2001b). In 1981 [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/hist_fro.htm [2001, September 10].
- Gifted Education Branch. (2001c). Rationale for the GEP [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/rati_mai.htm [2001, September 10].
- Gifted Education Branch. (2001d). History of the GEP [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/hist_mai.htm [2001, September 10].
- Gifted Education Branch. (2001e). GEP curriculum [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/curr_mai.htm [2001, September 10].
- Gifted Education Branch. (2001f). GEP enrichment [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/enri_mai.htm [2001, September 10].
- Gifted Education Branch. (2001g). Individualised research study [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/irs_mai.htm [2001, September 10].
- Gifted Education Branch. (2001h). Enrichment Activities and Special Programmes [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/spec_mai.htm [2001, September 10].

- Gifted Education Branch. (2001i). Innovation programme (IP) [on-line]. Available WWW: <http://www1.moe.edu.sg/gifted/gebr-gep/IP.htm> [2001, September 10].
- Gifted Education Branch. (2001j). Gifted Education Programme: Primary Computer Programme [on-line]. Available WWW: <http://www1.moe.edu.sg/gifted/gebr-gep/pricomputer/> [2001, September 10].
- Gifted Education Branch. (2001k). FAQ concerning GEP Teachers [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/faq_tec.htm [2001, September 10].
- Gifted Education Branch. (2001l). The educational factor [on-line]. Available WWW: http://www1.moe.edu.sg/gifted/gebr-gep/rati_edu.htm [2001, September 10].
- Gowan, J. C. (1979). Creativity and the gifted child movement. In J. C. Gowan, J. Khatena & E. P. Torrance (Eds.), Educating the ablest: A book of readings on the education of gifted children (pp. 4-17). Itasca, USA: F. E. peacock Publishers.
- Gowan, J. C., & Bruch, C. (1967). What makes a creative person a creative teacher? Gifted Child Quarterly, 11, 157-159.
- Gross, M. U. M. (1993). Exceptionally gifted children. London and New York: Routledge.
- Gross, M. U. M. (1999). Small poppies: Highly gifted children in early years. Roeper Review, 21(3), 207-214.
- Guba, E. G. (1978). Toward a methodology of naturalistic inquiry in educational evaluation. Los Angeles, CA: University of California Press.
- Guetzloe, E. C. (1989). Youth suicide: What the educator should know. Reston, VA: The Council for Exceptional Children.
- Guralnick, M.J., & Bennett, F.C. (1987). A framework for early intervention. In M.J. Guralnick, & F.C. Bennett (Eds.), The effectiveness of early intervention for at-risk & handicapped children. Orlando, FL: Academic.
- Haensly, P. A. (2001). A collage of parents' stories. Gifted Child Today, 24 (3), 36-46.
- Harrison, C. (1999). Visual representation of the young gifted child. Roeper Review, 21(3), 189-194.
- Hertzog, N. B. & Fowler, S. A. (1999). Perspectives: Evaluating an early childhood gifted education program. Roeper Review, 21(3), 222-227.
- Hollingworth, L. S. (1926). Gifted children: Their nature and nurture. New York: The Macmillan Company.

- Hollingworth, L. S. (1942). Children above 180 IQ stanford-binet: Origin and development. Yonkers-on-Hudson, NY: World Book.
- Hultgren, H. W., & Seeley, K. R. (1982). Training teachers of the gifted: A research monograph on teacher competencies. Denver: University of Denver, School of Education.
- Jee, W. K. (2001, March 07). Make learning fun again. The Straits Times, pp. 26.
- Jenkins-Friedman, R. & Others (1984). Professional training for teachers of the gifted and talented [on-line]. Available WWW: http://www.ed.gov/databases/ERIC_Digests/ed262525.html [2000, April 12].
- Jick, T. D. (1983). Mixing qualitative and quantitative methods: Triangulation in action. In J. Van Maanen, (Ed.), Qualitative methodology (pp. 135-148). Beverly Hills, CA: Sage Publications.
- Johnson, L. (1993). "Thoughts on giftedness." Understanding Our Gifted 5(5A): 15.
- Kaplan, L. S. (1990). Helping gifted students with stress management [on-line]. Available WWW: http://www.ed.gov/databases/ERIC_Digests/ed321493.html [2000, October 5].
- Karnes, F. A., Stephens, K. R. & Whorton, J. E. (2000). Certification and specialized competencies for teachers in gifted education programs. Roeper Review, 22 (3), 201-202.
- Kearney, K. (1996). Highly gifted children in full inclusion classrooms [on-line]. Available WWW: <http://www.hollingworth.org/fullincl.html> [2001, March 15].
- Kit, S. L. (2001, March 08). Challenge stressful education system. The Straits Times, pp. 22.
- Kolo, I. A. (1999). The effectiveness of Nigerian vs United States teacher checklists and inventories for nominating potentially gifted Nigerian preschoolers. Roeper Review, 21(3), 179-182.
- Lau, E. (2001, August 22). Stressed pupil committed suicide. The Straits Times, pp. 20.
- Lim, T. K. & Tan, L. S. (1997). A pull-out gifted program in Singapore. Gifted Education International, 12(1), 43-46.
- Lim, T. K. (1994). Letters to themselves: Gifted students' plans for positive lifestyles. Roeper Review, 17(2), 85-89.
- Lim, T. K. (1996). Formative evaluation of the Chinese high gifted education program. Roeper Review, 19(1), 50-53.

- Lindsey, M. (1980). Training teachers of the gifted and talented. New York: Teachers College Press.
- Logan, K. R., Diaz, E., Marisa, P., Dianew, R., MacFarland, A. D. & Bargamian, K. (1994). How inclusion built a community of learners. Educational Leadership, 52(4), 42-44.
- Loong, L. H. (2001). Speech of DPM Lee Hsien Loong at the opening ceremony of the building community and world-ready youth conference on Friday, 27 July 2001 at 11.00am [on-line]. Available WWW: [http://www.nyc.youth.gov.sg/hot_press/Speeches/Building Community & World-Ready Youth Conference \(27 Jul '01\) – Opening Address by DPM Lee.doc](http://www.nyc.youth.gov.sg/hot_press/Speeches/Building%20Community%20&%20World-Ready%20Youth%20Conference%20(27%20Jul%20'01)%20-%20Opening%20Address%20by%20DPM%20Lee.doc) [2001, September 03].
- Lundsteen, S. W. (1987). Qualitative assessment of gifted education. Gifted Child Quarterly, 31(1), 25-29.
- Maker, C. J. (1975). Training teachers for the gifted and talented. Reston, VA: Council for Exceptional Children.
- Maker, J. (1982). Curriculum development for the gifted. Rockville, MD: Aspen Systems Corporation.
- Martin, J. L. (1989). Light bright: A bright idea for bright minds. Washington: The Post Side Publishing Company.
- May, K. M. (1994). A developmental view of a gifted child's social and emotional adjustment. Roeper Review, 17(1), 105-109.
- McAdamis, S. (2000). A district-wide plan for acceleration and enrichment. Gifted Child Today, 23 (3), 20-27.
- Meng, S. Y. (2001, January 02). Don't rob young of their childhood. The Straits Times, pp. 17.
- Mensa Singapore. (2001a). About Mensa [on-line]. Available WWW: <http://mensa.org.sg/docs/abtmensa.html> [2001, August 02].
- Mensa Singapore. (2001b). IFI: Fringe events [on-line]. Available WWW: <http://www.mensa.org.sg/ifi/fringe.html> [2001, August 02].
- Merriam, S. B. (1988). Case study research in education. San Francisco: Jossey-Bass Publishers.
- Miles, M. B. & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook (2nd ed.). CA: Sage Publications.
- Mills, G. E. (2000). Action research: A guide for the teacher researcher. New Jersey: Merrill, an imprint of Prentice Hall.
- Ministry of Education. (1999). Gifted education programme handbook. Singapore: Gifted Education Branch.

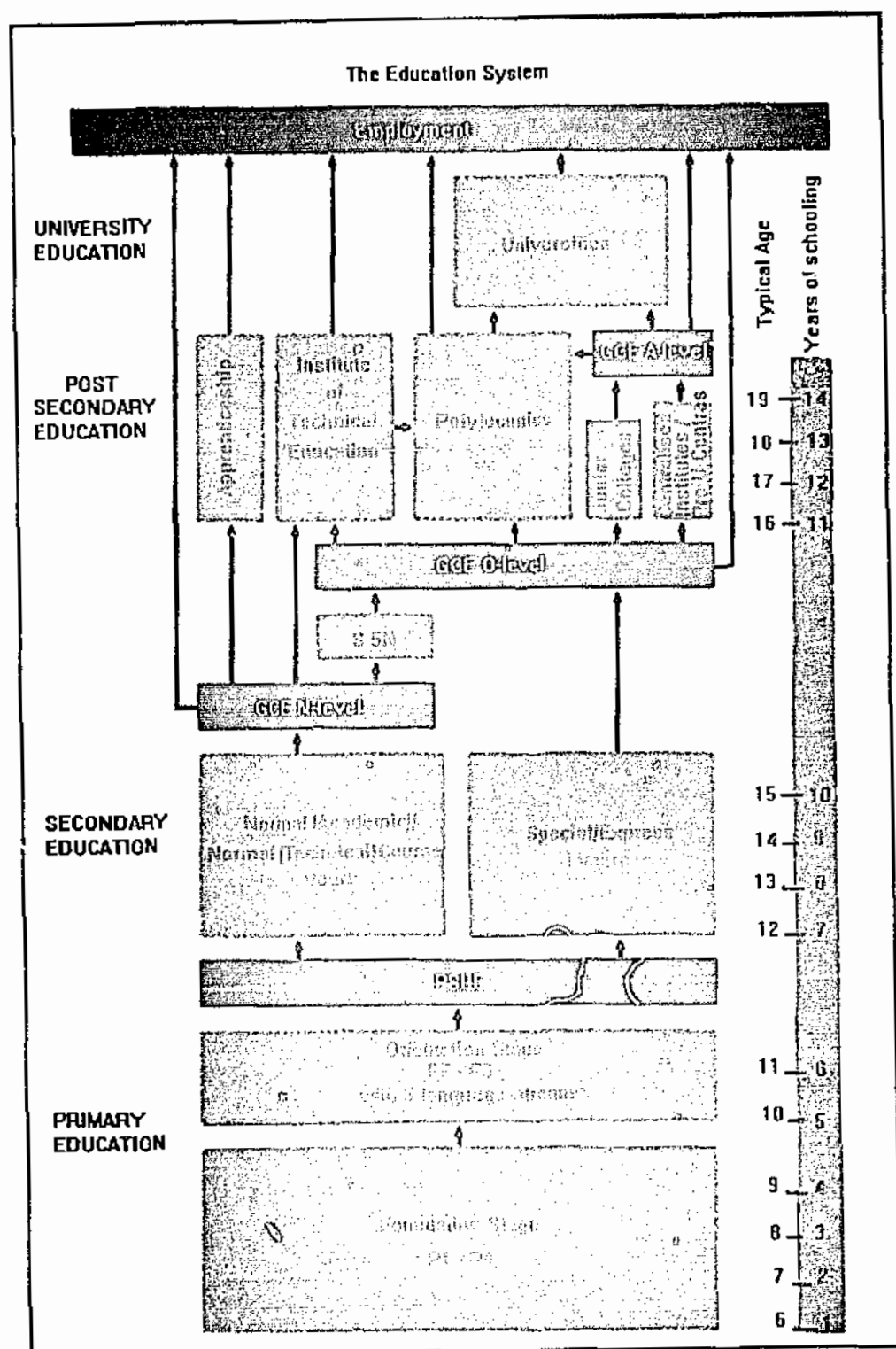
- Moltzen, R. (1998). Maximising the potential of the gifted child in the regular classroom: A professional development issue. Gifted Education International, 13(1), 36-45.
- Morelock, M. J. & Morrison, K. (1996). Gifted children have talents too. Highett, Victoria: Hawker Browlow Education.
- Morelock, M. J. & Morrison, K. (1999). Differentiating 'developmentally appropriate': The multidimensional curriculum model for young gifted children. Roeper Review, 21(3), 195-200.
- Morelock, M. J. (1992). Giftedness: The view from within. Understanding Our Gifted, 4(3), 11-15.
- Morelock, M. J. (1996). On the nature of giftedness and talent: Imposing order on chaos. Roeper Review, 19(1), 4-12.
- Morris Allen Study Centres. (2001a). Our Philosophy [on-line]. Available WWW: <http://www.morris-allen.com.sg/philosophy.html> [2001, August 02].
- Morris Allen Study Centres. (2001b). What's the difference between the normal class and the extension class? [on-line]. Available WWW: <http://www.morris-allen.com.sg/q111.html> [2001, August 02].
- Ness, B. & Latessa, E. (1979). Gifted children and self-teaching techniques. Directive Teacher, 2, 10-12.
- Ng, I. (2001). Face to face with PM: Stressful education system [on-line]. Available WWW: http://straitstimes.asia1.com.sg/mnt/html/webspecial/goh2001/pmgoh_stress.html [2000, September 05].
- Parke, B. N. (1989). Gifted students in regular classrooms. Boston: Allyn and Bacon.
- Parke, B. N. (1992). Challenging Gifted Students in the Regular Classroom [on-line]. Available WWW: http://www.ed.gov/databases/ERIC_Digests/ed352774.html [2001, March 09].
- Patton, M. (1990). Qualitative evaluation and research methods (2nd ed.). Newbury Park: Sage.
- Pfeffer, C. R. (1989). Studies of suicidal preadolescent and adolescent inpatients: A critique of research methods. Suicide and Life-Threatening Behavior, 19(1), 58-77.
- Plucker, J. A. (1994). Issues in the social and emotional adjustment and development of a gifted, Chinese American student. Roeper Review, 17(2), 89-94.
- Porter, L. (1998). Giftedness in young children. Every Child, 4(2), 6-7.

- Public Affairs Branch. (n.d.). Ministry of Education, Singapore: Moulding the future of our nation: The education system in Singapore [on-line]. Available WWW: <http://www.moe.edu.sg/edusin/edis-con.htm> [2001, May 05].
- Reis, S. M., Neu, T. W. & McGuire, J. M. (1997). Case studies of high-ability students with learning disabilities who have achieved. Exceptional Children, 63(4), 463-479.
- Reis, S.M., Kaplan, S.N., Tomlinson, C.A., Westberg, K.L., Callahan, C.M., & Cooper, C.R. (1998). A response: Equal does not mean identical. Educational Leadership, 56(3), 74-77.
- Renzulli, J. (1968). Identifying key features in programs for the gifted. Exceptional Children, 35, 217-221.
- Richardson, M. (1999). Singapore identity crisis? Youths would rather be white or Japanese [on-line]. Available WWW: <http://www.iht.com/IHT/MR/99/mr122099a.html> [2000, September 05].
- Roedell, W. C. (1990). Nurturing giftedness in young children [on-line]. Available WWW: http://www.kidsource.com/kidsource/content/nuturing_giftedness.html [2001, October 10].
- Roedell, W. C., Jackson, N. E. & Robinson, H. B. (1980). Gifted young children. New York: Teachers College Press.
- Roeper, A. (1995). Participatory vs. hierarchical models for administration: The Roeper School experience. In A. Roeper (Ed.), Annemarie Roeper: Selected writings and speeches (pp. 109-123). Minneapolis, MN: Free Spirit.
- Rogers, K. (1991). The relationship of grouping practices to the education of the gifted and talented learner: An executive summary. Storrs, CT: The National Research Center on the Gifted and Talented.
- Rogers, K. B., (1989). Training teachers of the gifted: What do they need to know? Roeper Review, 11, 145-150.
- Rogers, M. T. & Silverman, L. K. (n.d.). Recognizing giftedness in young children [on-line]. Available WWW: <http://www.gifteddevelopment.com/Articles/Recognizing%20Giftedness%20In%20Young%20Children.html> [2001, January 11].
- Sankar-Deleeuw, N. (1999). Gifted preschoolers: Parent and teacher views on identification, early admission and programming. Roeper Review, 21(3), 174-178.
- Sarantakos, S. (1993). Social research. Riverina: Charles Sturt University.
- Seeley, K. R. (1979). Competencies for teachers of gifted and talented children. Journal for the Education of the Gifted, 3, 7-13.

- Silverman, L. K. (1989). The highly gifted. In J. Feldhusen, K. Seeley, & J. VanTassel-Baska (Eds.), Excellence in educating the gifted (pp. 71-83). Denver, CO: Love Publishing.
- Silverman, L. K. (1997). What is giftedness? [on-line]. Available WWW: [http://www.gifteddevelopment.com/Articles/What is giftedness.html](http://www.gifteddevelopment.com/Articles/What%20is%20giftedness.html) [2001, January 10].
- Silverman, L. K. (1999). This issue honors Annemarie Roeper-a gifted teacher and teacher of the gifted. Roeper Review, 23(4), 188.
- Singapore Government Media Release. (2000). Prime minister's national day message 2000 [on-line]. Available WWW: <http://www.gov.sg/sgip/Announce/NDmsg.htm> [2000, September 05].
- Sisk, D. (1975). Teaching the gifted and talented teacher: A training model. Gifted Child Quarterly, 19, 81-87.
- Smutny, J. F. (1999). Special focus on young gifted children. Roeper Review, 21(3), 172-173.
- Snowden, P. L. & Christian, L. G. (1999). Parenting the young gifted child: Supportive behaviors. Roeper Review, 21(3), 215-221.
- Sowa, C. J., McIntire, J., May, K. M. & Bland, L. (1994). Social and emotional adjustment themes across gifted children. Roeper Review, 17(2), 95-98.
- Stephens, T. M., Blackhurst, H. E. & Magliocca, L. A. (1982). Teaching mainstreamed students. New York: John Wiley and Sons.
- Sternberg, R. J. (1993). Procedures for identifying intellectual potential in the gifted: A perspective on alternative "metaphors of mind". In K. A. Heller, F. J. Monks & A. H. Passow (Eds.), International handbook of research and development of giftedness and talent (pp. 185-207). Oxford: Pergamon Press Ltd.
- Sturt, G. (1999). Gifted children [on-line]. Available WWW: <http://www.garysturt.free-online.co.uk/gifted.htm> [2000, September 08].
- Tassel-Baska, J. V. (1994). Comprehensive curriculum for gifted learners. Needham Heights, MA: Allyn and Bacon.
- Terman, L. M. (1925). Mental and physical traits of a thousand gifted children. Stanford, CA: Stanford University Press.
- Thaver, T. L. (1995). A study of the preferred teaching and their relationships with several variables (gender, levels and subjects taught and experience with the gifted) of teachers of the gifted in Singapore. Unpublished postgraduate dissertation, Nanyang Technical University, Singapore.

- Ting, L. H. (2001, March 02). More S'pore children seeing psychiatrists. The Straits Times, pp. 1.
- Tolan, S. (1990). Helping your highly gifted child [on-line]. Available WWW: http://www.ed.gov/databases/ERIC_Digests/ed321482.html [2001, April 10].
- Tomlinson, C. A. (1999). The differentiated classroom. Alexandria, VA: Association for Supervision and Curriculum Development.
- U.S. Department of Education, Office of Educational Research and Improvement (1993). National excellence: A case for developing America's talent. Washington, D. C.: U.S. Government Printing Office.
- Van Maanen, J. (1983). Reclaiming qualitative research methods for organizational research. In J. Van Maanen (Ed.), Qualitative methodology (pp. 9-18). Beverly Hills, CA: Sage Publications.
- Webb, J. T. (1999). Existential depression in gifted individuals [on-line]. Available WWW: <http://www.giftedpsychologypress.com/autart.htm> [2000, October 05].
- Webb, J. T., Meckstroth, E. A., & Tolan, S. S. (1982). Guiding the gifted child. Columbus, OH: Ohio Psychology Publishing Company.
- Weber, P. (1999). Mental models and the identification of young gifted students: A tale of two boys. Roeper Review, 21(3), 183-188.
- Westberg, K., Archambault, F., Dobyns, S., & Salvin, T. (1993). The classroom practices observation study. Journal for the Education of the Gifted 16(2), 29-56.
- Whitlock, M. S., & DuCette, J. P. (1989). Outstanding and average teachers of the gifted: A comparative study. Gifted Child Quarterly, 33, 15-21.
- Winner, E. (1996). The miseducation of our gifted children [on-line]. Available WWW: <http://www.edweek.org/ew/vol-16/07winner.h16> [2000, October 09].
- Yeo, A. (2001, January 02). Intervene early so suicide is not an option. The Straits Times, pp. 17.
- Yin, R. K. (1989). Case study research design and methods. Newbury Park: Sage Publications.
- Ziemann, S. (1999). Merely bright – or brilliant? [on-line]. Available WWW: <http://chicagotribune.com/familyhealth/family/article/0,2669,2-34648,FF.html> [1999, December 21].

APPENDIX 1. THE EDUCATION SYSTEM



APPENDIX 2.

CHECKLIST OF CHARACTERISTICS OF THE GIFTED CHILD

Learning Characteristics

- Has unusually advanced vocabulary for age or grade level
- Has quick mastery and recall of factual information
- Wants to know what makes things or people 'tick'
- Usually 'sees more' or 'gets more' out of a story, film, etc. than others
- Reads a great deal on his/her own; usually prefers adult level books, does not avoid difficult materials
- Reasons things out for himself/herself

Motivational Characteristics

- Becomes absorbed and truly involved in certain topics or problems
- Is easily bored with routine tasks
- Needs little external motivation to follow through his/her work that initially excites him/her
- Strives towards perfection; is self-critical; is not easily satisfied with his/her own speed or products
- Prefers to work independently, requires little direction from teachers
- Is interested in many 'adult issues' such as religion, politics, sex, race
- Is stubborn in his/her beliefs
- Is concerned with right and wrong, good and bad

Creativity Characteristics

- Is constantly asking questions about anything and everything
- Often offers unusual ('way-out'), unique, clever responses
- Is uninhibited in expressions of opinion
- Is a high risk-taker; is adventurous and speculative
- Is often concerned with adapting, improving and modifying institutions, objects and systems
- Displays a keen sense of humour
- Shows emotional sensitivity
- Is non-conforming; accepts disorder; is individualistic; does not fear being different
- Is unwilling to accept authoritarian pronouncements without critical examination

Leadership Characteristics

- Carries responsibility well
- Is self confident with children his/her own age as well as adults
- Can express himself/herself well
- Adapts readily to new situations
- Is sociable and prefers not to be alone
- Generally directs the activity in which he/she is involved

(Based on research compiled by Dr J Renzulli)

APPENDIX 3. INFORMATION LETTERS AND CONSENT FORMS

Appendix3.1 Information Letter to MOE

**An Investigation of the Perceptions of the Policy Maker, Teachers,
and Students of the current Primary 4 Gifted Education Program in
Singapore**

Dear, (.....)

I am Veeramangai Arulselvi Muthiah, a Singaporean who is currently studying at Edith Cowan University in Western Australia. As part of the requirements for the Award of the Bachelor of Education (Special Education) with Honours, I wish to investigate the education of Gifted Children in Singapore with particular focus on the young gifted children. This proposed research seeks to investigate policymakers', teachers' and the students' perceptions of the current Gifted Education Program in Primary 4 in the Singaporean context.

The result of the proposed study will aid the understanding of Policy Makers in Gifted Education of teachers' and students' perceptions of the current Gifted Education Program in Singapore. It will also assist parents of Gifted children to better understand the current Gifted Education Program in Singapore. Implications for future practice may also be drawn from the perceptions of young gifted children, as to whether their needs are being met and their attitudes towards the current Gifted Education Program. Finally, this proposed study will clearly articulate the roles of the Policy Maker and teachers in the Gifted Education Program in Singapore and the results of this study will provide important knowledge to future gifted education teachers as well.

I would like to come to Singapore personally to conduct some interviews with the Policy Maker, teachers and gifted children in the Primary 4 gifted program at a time and place of their convenience. With their consent, I would like to tape record the interviews to ensure the accuracy of my recording. The participants will also have the right to validate the tapes upon request and the tapes will be destroyed at the conclusion of my study. Any photographs of the children's creative work will only be taken and included with their parents', school's and children's approval. Participation

is purely voluntary and participants retain the right to withdraw from the study at any time.

All participants will also be assured of confidentiality and protection of their rights in the study. For maximum assurance of anonymity and privacy, only the participant's first names will be used in the consent forms. Pseudonyms will be used in the reporting of the data and the real names of the schools will not be used.

I realise that I am asking a lot from the participants but I sincerely hope that they will consent to take part in the study. Not only will they be helping me, but they will also be making a valuable contribution to the gifted education field.

I would truly appreciate it if you could kindly inform me of anyone I am supposed to contact or get approval from in order to conduct this study and if there would be any restrictions for me to conduct this proposed study in Singapore.

If there are no restrictions, once I have obtained Ethics Clearance and my proposed study has been approved by my University, I would like to come to Singapore personally and conduct this study sometime between the end of July and August with the participants' consent. Should you require any further information regarding this proposed research, please do not hesitate to contact me at this e-mail address:



Thanking in anticipation.

Yours sincerely,

Veeramangai Arulselvi Muthiah

Appendix 3.2 Information Letter to Principals of Schools

An Investigation of the Perceptions of the Policy Maker, Teachers and Students of the current Primary 4 Gifted Education Program in Singapore

Dear, (.....)

I am Veeramangai Arulselvi Muthiah, a Singaporean who is currently studying at Edith Cowan University in Western Australia. As part of the requirements for the Award of the Bachelor of Education (Special Education) with Honours, I wish to investigate the education of Gifted Children in Singapore with particular focus on the young gifted children. This proposed research seeks to investigate policymakers', teachers' and the students' perceptions of the current Gifted Education Program in Primary 4 in the Singaporean context.

The result of the proposed study will aid the understanding of Policy Makers in Gifted Education of teachers' and students' perceptions of Gifted Education. It will also assist parents of Gifted children to better understand the current Gifted Education Program in Singapore. Implications for future practice may also be drawn from the perceptions of young gifted children, as to whether their needs are being met and their attitudes towards the current Gifted Education Program. Finally, this proposed study will clearly articulate the roles of the Policy Maker and teachers in the Gifted Education Program in Singapore and the results of this study will provide important knowledge to future gifted education teachers as well.

I would like to talk to some of your school's teachers and children from the primary 4 Gifted Education Program at a time and place of their convenience for about one hour. I would truly appreciate it if the teachers could kindly pass the consent forms to the parents and pass them to you for collection. With their consent, I would like to tape record the interviews to ensure the accuracy of my recording. The participants will also have the right to validate the tapes upon request and the tapes will be destroyed at the conclusion of my study. Any photographs of the children's creative work will only be taken and included with the approval of parents, schools and children. Participation is purely voluntary and participants retain the right to withdraw from the study at any time.

All participants will also be assured of confidentiality and protection of their rights in the study. For maximum assurance of anonymity and privacy, only the participant's first names will be used in the consent forms. Pseudonyms will be used in the reporting of the data and the real names of the schools will not be used.

I realise that I am asking a lot from you and the participants but I sincerely hope that consent will be given to conduct this study. Not only will the participants be helping me, but they will also be making a valuable contribution to the gifted education field.

I would truly appreciate it if you could kindly inform me if there would be any restrictions for me to conduct this proposed study using some of your teachers and children from the Primary 4 Gifted Education Program.

If there are no restrictions, once I have obtained Ethics Clearance and my proposed study has been approved by my University, I would like to come to Singapore personally and conduct this study sometime between the end of July and August with the participants and your consent to talk to the teachers and the children. Should you require any further information regarding this proposed research, please do not hesitate to contact me at this e-mail address: [REDACTED]

Thanking in anticipation.

Yours sincerely,

Veeramangai Arulselvi Muthiah

Appendix 3.3 Information Letter to Parents

An Investigation of the Perceptions of the Policy Maker, Teachers and Students of the current Primary 4 Gifted Education Program in Singapore

Dear, (.....)

I am Veeramangai Arulselvi Muthiah, a Singaporean who is currently studying at Edith Cowan University in Western Australia. As part of the requirements for the Award of the Bachelor of Education (Special Education) with Honours, I wish to investigate the education of Gifted Children in Singapore with particular focus on the young gifted children. This proposed research seeks to investigate policymakers', teachers' and the students' perceptions of the current Gifted Education Program in Primary 4 in the Singaporean context.

The result of the proposed study will aid the understanding of Policy Makers in Gifted Education of teachers' and students' perceptions of Gifted Education. It will also assist parents of Gifted children to better understand the current Gifted Education Program in Singapore. Implications for future practice may also be drawn from the perceptions of young gifted children, as to whether their needs are being met and their attitudes towards the current Gifted Education Program. Finally, this proposed study will clearly articulate the roles of Policy Makers and teachers in the Gifted Education Program in Singapore and the results of this study will provide important knowledge to future gifted education teachers as well.

I would also like to talk to your child about the current Gifted Education Program in Singapore. With your consent, I would like to tape record the interview to ensure the accuracy of my recording. Please be assured that you have the right to validate the tapes upon request and the tapes will be destroyed at the conclusion of my study. Any creative works done by your child may be photographed to be included in the study with the approval of your child and yourself. Participation is purely voluntary and you retain the right to withdraw from the study at any time.

For maximum assurance of anonymity and privacy, only your child's first name will be used in the consent forms. Pseudonyms will be used in the reporting of the data and the real name of your child's school will not be used.

I realise that I am asking a lot from you and your child but I sincerely hope that consent will be given to conduct this study. Not only will you and your child be helping me, but your child will also be making a valuable contribution to the gifted education field.

Should you require any further information regarding this proposed research, please do not hesitate to contact me at this e-mail address: [REDACTED]

Thanking in anticipation.

Yours sincerely,

Veeramangai Arulselvi Muthiah

**Appendix 3.4 Consent Forms to the Policy Maker, Teachers, and Children
to Take Part in the Study**

***An Investigation of the Perceptions of the Policy Maker, Teachers and Students of
the current Primary 4 Gifted Education Program in Singapore***

Consent Form

I (First Name) have been informed about all aspects of the research and all queries regarding this research have been answered to my satisfaction. I hereby agree to participate in this study. I understand that all information will be treated in the strictest confidence and that anonymity will be maintained. I also understand that I am free to withdraw from this study at any time. I agree that the research data gathered for this study may be published as long as I am not identifiable.

Signature of Participant _____

Date _____

Signature of Researcher _____

Date _____

Appendix 3.5 Consent Forms to Principals to Interview the Teachers and Children

An Investigation of the Perceptions of the Policy Maker, Teachers and Students of the current Primary 4 Gifted Education Program in Singapore

Consent Form

I (First Name) have been informed about all aspects of the research and all queries regarding this research have been answered to my satisfaction. I hereby agree for the researcher to talk to some of the teachers and children from the primary 4 Gifted Education Program in this school. I understand that all information will be treated in the strictest confidence and that anonymity will be maintained. I also understand that the teachers and children are free to withdraw from this study at any time. I agree that the research data gathered for this study may be published as long as the teachers, children, school and I will not be identifiable.

Signature of Principal _____

Date _____

Signature of Researcher _____

Date _____

Appendix 3.6 Consent Forms to Parents to Interview their Children

An Investigation of the Perceptions of the Policy Maker, Teachers and Students of the current Primary 4 Gifted Education Program in Singapore

Consent Form

I (First Name) have been informed about all aspects of the research and all queries regarding this research have been answered to my satisfaction. I hereby agree to allow my child (First Name) to take part in this study. I understand that all information will be treated in the strictest confidence and that anonymity will be maintained. I also understand that I am free to withdraw my child from this study at any time. I agree that the research data gathered for this study may be published as long as my child is not identifiable.

Signature of Parent _____

Date _____

Signature of Child _____

Date _____

Signature of Researcher _____

Date _____

APPENDIX 4. GUIDED INTERVIEW SCHEDULE FOR POLICY MAKER

Background Information on Policy Maker

(Please note that your first name is sufficient and pseudonym will be used in reporting).

1. Participant's name: _____
2. Age: _____
3. Nationality: _____
4. Languages spoken: _____
5. Years and type of experience in gifted education: _____
 - Highest educational level: _____
 - What is the name of your current position? _____
 - How long have you been in this position in MOE? _____
6. Is there anything else about yourself that you think is important?

APPROVED BY

Ivy Chua Peck Tong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

Appendix 4.1 Semi-Structured Interview

Guiding questions for policy maker

Guiding Questions for Policy Maker

1. What does your role in the current Gifted Education Program involve?

2. I know about the Primary 4 Gifted Education Program in Singapore. Tell me about children before this age. Is any special provision made for them?

3. What about parents who suspect that their child is gifted in the very early years? Do you have any resources/information for them?

4. How would very young gifted children be identified?

5. What are the aims of the Gifted Education Program in Singapore?

6. There has been some media coverage of stressed children in Singapore. What do you think about this?

7. The Prime Minister Goh Chok Tong was reported as saying that some gifted children felt that they had under-performed and that they had let down their parents and thought of committing suicide. He further added that some parents had very high expectations of these children. What do you think about this report? Do you know of any counselling programs for these children?

APPROVED BY

Ivy Chua Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

8. Does the Gifted Education Program cater for the children's social/ emotional development? If so, how?

9. Do the children in the program do any project work?

10. What about enrichment?

11. How are teachers for the Gifted Education Program selected?

12. Do the teachers have any special qualities or receive any special training?

13. What about early childhood teachers and regular classroom teachers of children under 9 years? Would they know how to identify gifted children?

14. Are parents informed of their children's giftedness? If so, how?

15. Once a child has been selected for the gifted program, are the parents given any briefing?

APPROVED BY

Ivy Chia Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

APPENDIX 5. GUIDED INTERVIEW SCHEDULE FOR TEACHERS

Background Information on Teachers and their Schools

(Please note that your first name is sufficient and pseudonym will be used to replace your name and a made up name will be given to replace the real name of your school in reporting).

1. Participant's name: _____
2. Name of school: _____
3. Age: _____
4. Nationality: _____
5. Languages spoken: _____
6. Years and type of experience in gifted education: _____
7. Highest educational level: _____
8. What is your current position? _____
9. How long have you been in this position? _____
10. How were you selected for this position? _____
11. Did you have any training prior to becoming a teacher in this program?

12. If yes, can you please indicate where you received this training?

13. What was the duration of the training?

APPROVED BY

Ivy Chua Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

14. How useful has the training been in relation to teaching gifted children?

15. What subjects do you teach? _____

16. How many gifted children do you have in your class? _____


17. Total number of children in your class? _____

18. What is the average number of children in each class in your school?

19. How many gifted education teachers are there in your school?

20. Is there any other information regarding your program or school that you think I should know about?

APPROVED BY

 Ivy Chua Peek Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

Appendix 5.1 Semi-Structured Interview

Guiding questions for Teachers

Guiding Questions for Teachers

1. What is your role in the current Gifted Education Program in Singapore?

2. What are your attitudes and values towards the current Gifted Education Program?

3. How did you become interested in this profession?

4. How were you selected?

5. What do you think about the selection procedure?

APPROVED BY

Ivy Chua Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

6. Do you believe that young gifted children have special needs?


7. What do you think about early identification of gifted children before the primary 3 screening test?

8. What advice would you give to parents who were not sure of how to cope with their child's giftedness?

9. Are the parents of the gifted children involved in the school? Are there any parent-teacher meetings, gatherings and so on to encourage parent participation?

10. What do you think is most important for the exceptionally able child to learn from this program?

APPROVED BY


Ivy Chun Peck Yong (Miss)
Head, Data Administration &
Data Administration Centre
Ministry of Education

11. What types of activities are currently carried out to encourage social interaction?


12. What do you think are the advantages and disadvantages of this program?

13. How satisfied are you with the current Gifted Education Program in Singapore?

14. How do you feel about the current identification procedures? What other methods do you think could be used to identify the gifted children?

15. Do you feel pressured by the gifted children at all? Have you ever felt intimidated by them?

APPROVED BY

 Ivy Chua Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

16. Is there anything you would like to comment on about the current Gifted Education Program?

APPROVED BY

[Signature]
Jey Chua Peek Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

APPENDIX 6. GUIDED INTERVIEW SCHEDULE FOR STUDENTS

Background Information on Children

(Please note that your first name is sufficient and your real name will not be used in reporting).

1. Participant's name: _____

2. Male / Female

3. Age: _____

4. Nationality: _____

5. Languages spoken: _____

6. What are your interests?

7. Are you working on any projects at the moment? Tell me about them.

8. Which is your favourite subject in school? Why?

9. Do you like reading books? What sort of books interest you the most? Why? Who is your favourite author?

APPROVED BY

Jivy Chua Peek Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

10. How many members are there in your family?

11. Is there anything else that you would like to tell me about yourself? (What you like/dislike etc.)

APPROVED BY

Ivy Chua Peck Yong (MISA)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

Appendix 6.1 Semi-Structured Interview

Guiding questions for Students

Guiding Questions for Children

1. What do you enjoy doing the most?


2. What do you dislike most?

3. How do you feel about yourself?

4. Who are your friends? Describe them.

5. Do you believe that there is something special about you?

APPROVED BY

 Ivy Chua Peck Yeng (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

6. Have you ever felt left out or lonely? Can you describe the incident that made you feel like that?


7. What do you do when you come home first thing from school?

8. What are your feelings towards homework?

9. What do you like about the Gifted Education Program in your school? Why?

10. What do you dislike about it? Why?

APPROVED BY


Ivy Chiu, [Redacted] (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

11. Did you do any project work in the program? Can you describe it?

12. What is your favourite subject in the program? Why?

13. Is there a subject that you dislike the most? Why?

14. How do you feel about exams?

15. How do you feel about the teachers in the Gifted Education Program?

APPROVED BY




Ivy Chua Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

16. How do you feel about the teachers in the regular classroom?

17. Is there anything else you would like to share about the Gifted Education Program?

APPROVED BY

 Ivy Chua Peck Yong (Miss)
Head, Data Administration 3
Data Administration Centre
Ministry of Education

APPENDIX 7. APPROVAL OF THE MOE

MINISTRY OF EDUCATION

1 NORTH BUONA VISTA DRIVE
SINGAPORE 138675
REPUBLIC OF SINGAPORE



The Singapore Education Service

MOULDING THE FUTURE OF
OUR NATION

Robinson Road P.O. Box 746

Telephone: 8721110

Facsimile: 7755826

CS-mailbox: GVT 036

Cable: "EDUCATION"

Internet address:

<http://www.moe.edu.sg>

Internet Office e-mail address:

contact.MOE@moe.edu.sg

Personal e-mail address:

E-mail: Ivy_Chua@moe.gov.sg

Sulaimah_Lakem@moe.gov.sg

EDUN N32-07-005 Vol. 64

Request No.: RQ/0365

16 July 2001

Ms Veeramangai Arulselvi Muthiah
Blk 323 Jurong East St. 31
#02-212
Singapore 600323

Dear Ms Arulselvi

STUDY ON "AN INVESTIGATION OF THE POLICY MAKERS', TEACHERS', PARENTS', & STUDENTS' PERCEPTIONS OF THE CURRENT PRIMARY 4 GIFTED EDUCATION PROGRAM IN SINGAPORE"

I refer to your application letter dated 11 July 2001 requesting for approval to collect data from schools.

2 I am pleased to inform you that the Ministry has no objection to your request to conduct research in 3 primary schools. Please use the attached letter, including Annex A and the approved questionnaire to seek approval from the principals and during actual survey.

3 Please observe the following conditions of approval for conducting survey in schools:

- a) adhere to the approved research proposal;
- b) not to publish your findings without clearance from the Ministry of Education;
- c) make sure that the schools' participation in the research have been recorded in Annex A.

4 Please acknowledge receipt of this letter by contacting Miss Sulaimah at Tel: 7762921 or myself at Tel: 8796073. Alternatively, we can also be reached at any of the e-mail addresses at the top right hand corner of this letter.

Yours sincerely

Ivy Chua/Peck Yong (Ms)
Head, Data Administration 3
Data Administration Centre
for PERMANENT SECRETARY (EDUCATION)

#6207055/14qster0365

Public Service for the 21st Century

MINISTRY OF EDUCATION

1 NORTH BUDNA VISTA DRIVE
SINGAPORE 138675
REPUBLIC OF SINGAPORE



The Singapore Education Service

MOULDING THE FUTURE OF
OUR NATION

Robinson Road P.O. Box 746
Telephone: 8721110
Facsimile: 7755826
CS-mailbox: GVT-036
Cable: "EDUCATION"
Internet address:
<http://www.moe.edu.sg>
Internet Office e-mail address:
contact.MOE@moe.edu.sg

Personal e-mail address:
E-mail: Ivy_Chuo@moe.gov.sg
Sulaimah_Lakem@moe.gov.sg

EDUN N32-07-005 Vol. 64

Request No.: RQ/0365

16 July 2001

To: Principals of Primary Schools

STUDY ON "AN INVESTIGATION OF THE POLICY MAKERS', TEACHERS', PARENTS', & STUDENTS' PERCEPTIONS OF THE CURRENT PRIMARY 4 GIFTED EDUCATION PROGRAM IN SINGAPORE"

The Ministry has no objection to the research proposed by Ms Veeramangai Arulselvi Muthiah, an Honours student in Special Education at Edith Cowan University. You may decide whether or not to allow her to conduct the research in your schools. If you do, please:

- i) ensure that the approved research proposal including questionnaire (see attached) is adhered to;
- ii) inform your teachers/pupils that participation in the study is voluntary and they need not provide any sensitive information (e.g. name and NRIC No.);
- iii) record your schools' participation by completing the form as shown in Annex A.

2 If you require any clarifications, please contact Miss Sulaimah at Tel: 7762921 or myself at Tel: 8796073. Thank you for your co-operation.

Ivy Chua/Peck Yong (Ms)
Head, Data Administration 3
Data Administration Centre

N320705140365

Public Service for the 21st Century

APPENDIX 8. CHILDREN'S 'ME' BOXES

Appendix 8.1 'Me' Box of PA-1

Appendix 8.1.1 Writings on the Outside of the Box

My expectations of my

Teachers' roles:

- I expect my teachers to be kind & understanding.
- They should be a facilitator.
- They should make use of many examples and connect the subject with real life.

Parents' roles:

- My parents have the responsibility to be attentive to my needs.
- They should be more patient and caring towards each other.
- They should be more tolerant towards each other.
- They should always believe in us. My mother does but my father doesn't seem to bother or care anymore.


Background:

Male, 10 yrs old, love maths, chess, collecting coins.

Concerns:

- Worried that the world has so many problems.
- Worried about not doing well enough to get into the top schools after PSLE.
- Worried about losing my mother in an accident or something like that.

Me Bo:



Me...

All about

My Roles:

As a citizen:

- I must respect all races and be helpful to everyone.
- Must find a way to help the world, my country in so many areas such as poverty, famine, racism, child labour, drugs etc.

As a family member:

- I have to be a responsible son.
- Must obey and listen to both my mother & father.
- Must respect my mother's wishes and do well in my exams.

As a student of my school:

- Must cooperate with my peers in a friendly manner.
- Must respect my school's name.



Experiences before coming to this school:

- Hated my pre-school and primary school experiences.
- Will always hate it
- Don't ever want to visit it
- Hated being in the two schools
- Felt very unhappy & lonely there.
- Students were very mean called names, bullied me
- Found the lessons very boring, unchallenging, not motivating at all.
- Felt different from the other students at times and hated it then they said that I was complicated.
- Used to play with the puzzles I brought from home in kindergarten.
- Found the lessons extremely boring.

Experiences since I joined this school:

- Great school, challenging lessons provided.
- Variety of teaching methods used.
- Kind & patient teachers who understood my feelings better.
- More friendly & understanding friends in the program.

My Strengths & Weaknesses

-  - Very good at solving math quizzes and problems.
- very good at playing chess.
- Very fast reader, good with computer programming
- not good at Chinese
- not good at science.
- Must improve alot.
- Must work harder at night too
-  - Must become a world famous civil engineer and help the poor people, control child labour etc.

My family: My mother and sister have high expectations of me and it is good and bad.

- worries me at times because I don't want to disappoint them.

My teachers & friends: They love me a lot.

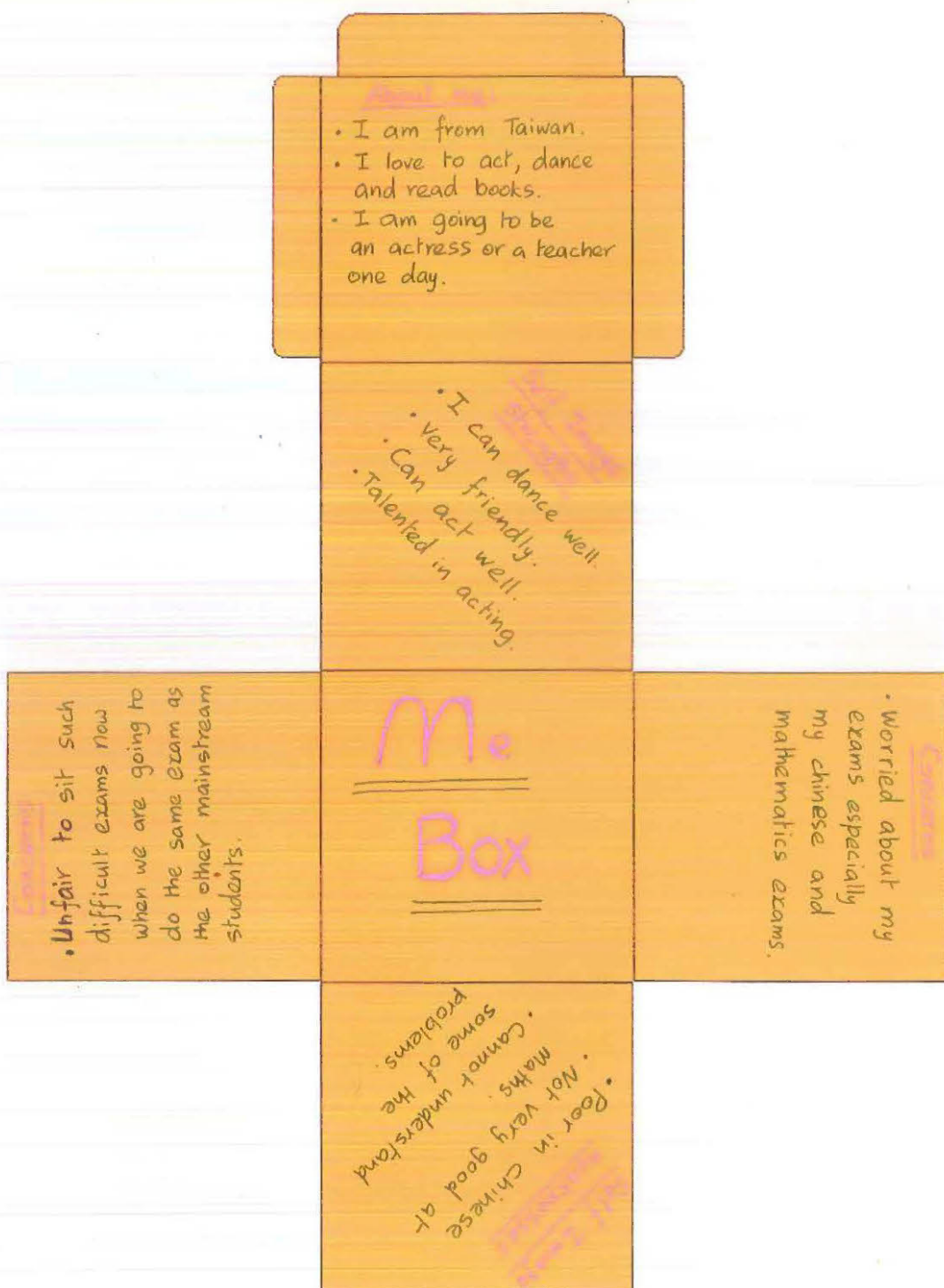
- My teachers & friends also have high expectations expect me to be the top student.

Expectations of me by others:

Self Expectations:

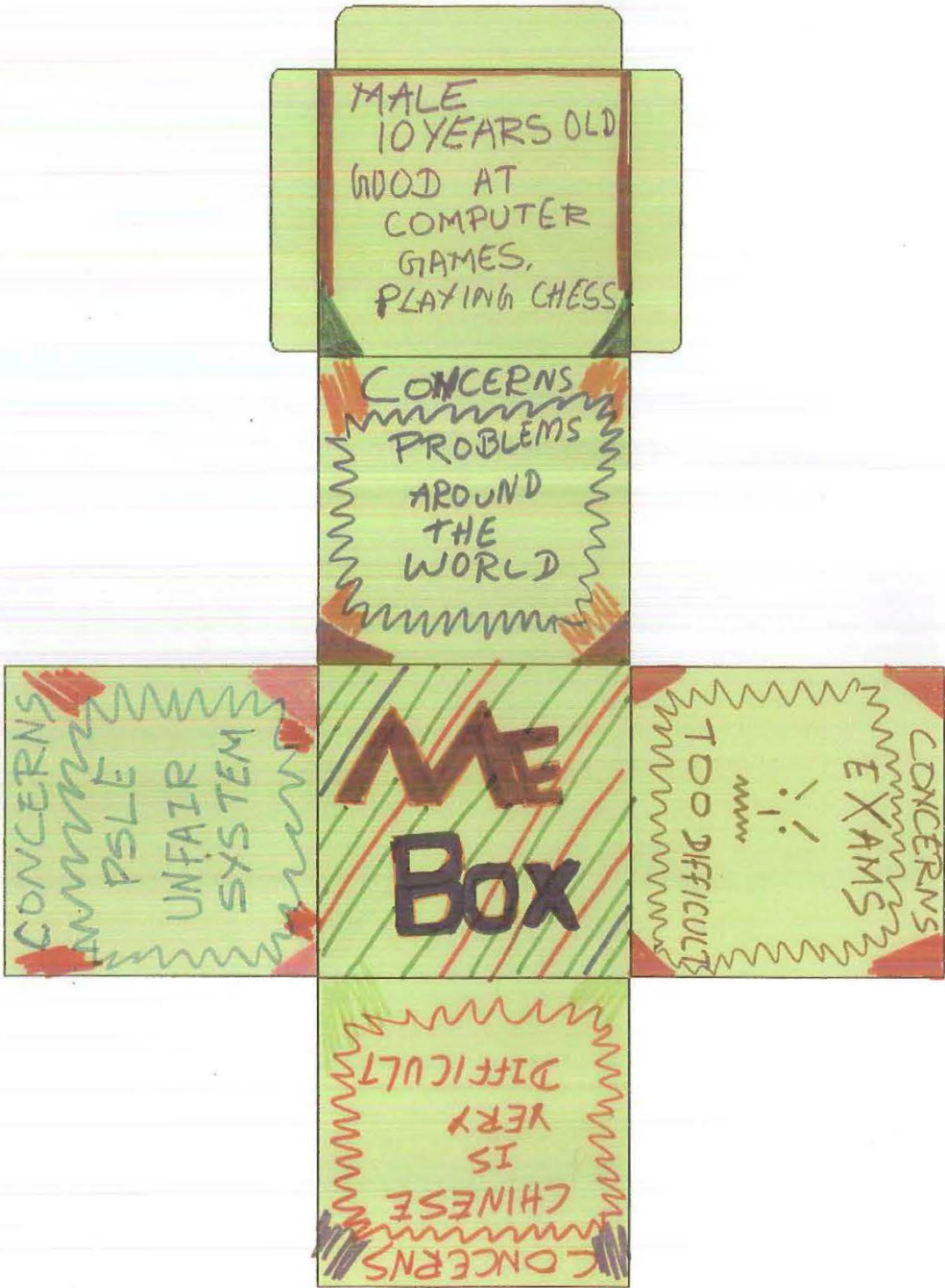
- Must be the top in everything that I do.
- must become one of the top students in Singapore for the PSLE exams.
- Must become a world famous civil engineer and help the poor people, control child labour etc.

Appendix 8.2.1 Writings on the Outside of the Box



<p><u>Experiences in Kindergarten</u></p> <ul style="list-style-type: none"> • I did not enjoy going to the school. • I was miserable and unhappy. • My mother taught me at home. 	<p><u>Experiences in Primary School</u></p> <ul style="list-style-type: none"> • I do not have many pleasant memories. • Was bullied and picked by the boys. • Had a good friend. • Lessons were boring. 	<p><u>Experiences in Secondary School</u></p> <ul style="list-style-type: none"> • My mother and my grandmother expect a lot from me. • Sometimes I wish that they didn't have such high expectations. • My friends in the program don't pressurize me.
<p><u>Experiences in University</u></p> <ul style="list-style-type: none"> • me to do very well for PSLE (especially mother and grandmother) • expect me to be studying or doing homework all the time (I hate that). <p><u>Experiences in the Program</u></p> <p>Positive - more individual attention given by teachers. Negative - too much home work for Chinese. Lacks creativity in PE & Art.</p>	<p><u>Experiences in the Program</u></p> <ul style="list-style-type: none"> • be loyal and truthful • be supportive and understanding • not push me so much (especially mother) • allow me to do what I want to do and not force their wishes. 	<p><u>Experiences in the Program</u></p> <ul style="list-style-type: none"> • Provide interesting and fun activities • be approachable • not read from text books all the time or write on the board • be creative and provide lots of hands-on experiences

Appendix 8.3.1 Writings on the Outside of the Box





Appendix 8.4 'Me' Box of PA-2

Appendix 8.4.1 Writings on the Outside of the Box

<p>Background: Female, Chinese, 10 years old, loves to read many types of books.</p>	<p>Me... Me... Me... Box... Box... Box...</p>	<p>Self-Image: <u>My strengths</u> - I'm an avid reader. - I love to read, read, and read during my free time. - I can play the piano well. - My mother says that reading and playing the piano are my biggest strengths. - It seems that I started to read and play the piano when I was just 3 years old. <u>My weaknesses:</u> - I'm rather weak in my Chinese and I need to improve it. - I hate to do homework - I hate to do anything other than read storybooks, readers' digest, anything I can get my hands on. - I feel that revising is a waste of time.</p>	<p>Concerns: - I'm really concerned about my PSLE exam. - I hope to do really well so that I can get into the top secondary school in Singapore. - I'm also concerned about people fighting one another, hunger, uncurable diseases. - I'm concerned about how Singapore is going to compete and excel in the future with no natural resources.</p>
	<p>Rules When Reading... Please do not: 1) Guess who I am... 2) Laugh at me... 3) Be offended by any comments.</p>	<p>My role to my family, school and community: - I need to make my parents proud of me. - I must never hide anything from my family. - I must make my school proud and be grateful to all the teachers. - I must respect all creatures and help to create a peaceful country.</p>	

Experiences before selection:

During pre-school:

- I did not have many friends in Kindergarten.
- My mother says that I always used to play with clay or read books.
- I can remember reading storybooks in my class.
- My favourite teacher was the English teacher

During Primary 1 to 3 in my former school:

- I did not have as many friends as I have here now.
- used to feel lonely and left out.
- Hurt a lot when my classmates made fun of me.
- The boys were really horrible and extremely mean.
- They passed unkind words

Expectations of me:

- By my teachers and friends:
- My teachers in the program are very encouraging.
- They expect me to work hard and do my best.
- My friends expect me to be one of the top students in my school.
- I like it in a way because I don't have to worry that I will be made fun of.

Roles of my Teachers & my friends in SEP

- Facilitate learning for all children
- make everyone feel welcome and equal.
- Friendly
- Friends should be loyal
- Friends should be to one another.
- My projects, activities etc.
- I expect in all my exams, schoolwork etc.

- Self-Expectations:
- I expect to do well in all my projects, schoolwork etc.
- All my relatives say that I'm very smart.
- They say that I'm special and that I am really talented.
- Everyone expects me to do very well in my PSLE exam.
- My mother usually places very high expectations in me.
- My father is more understanding

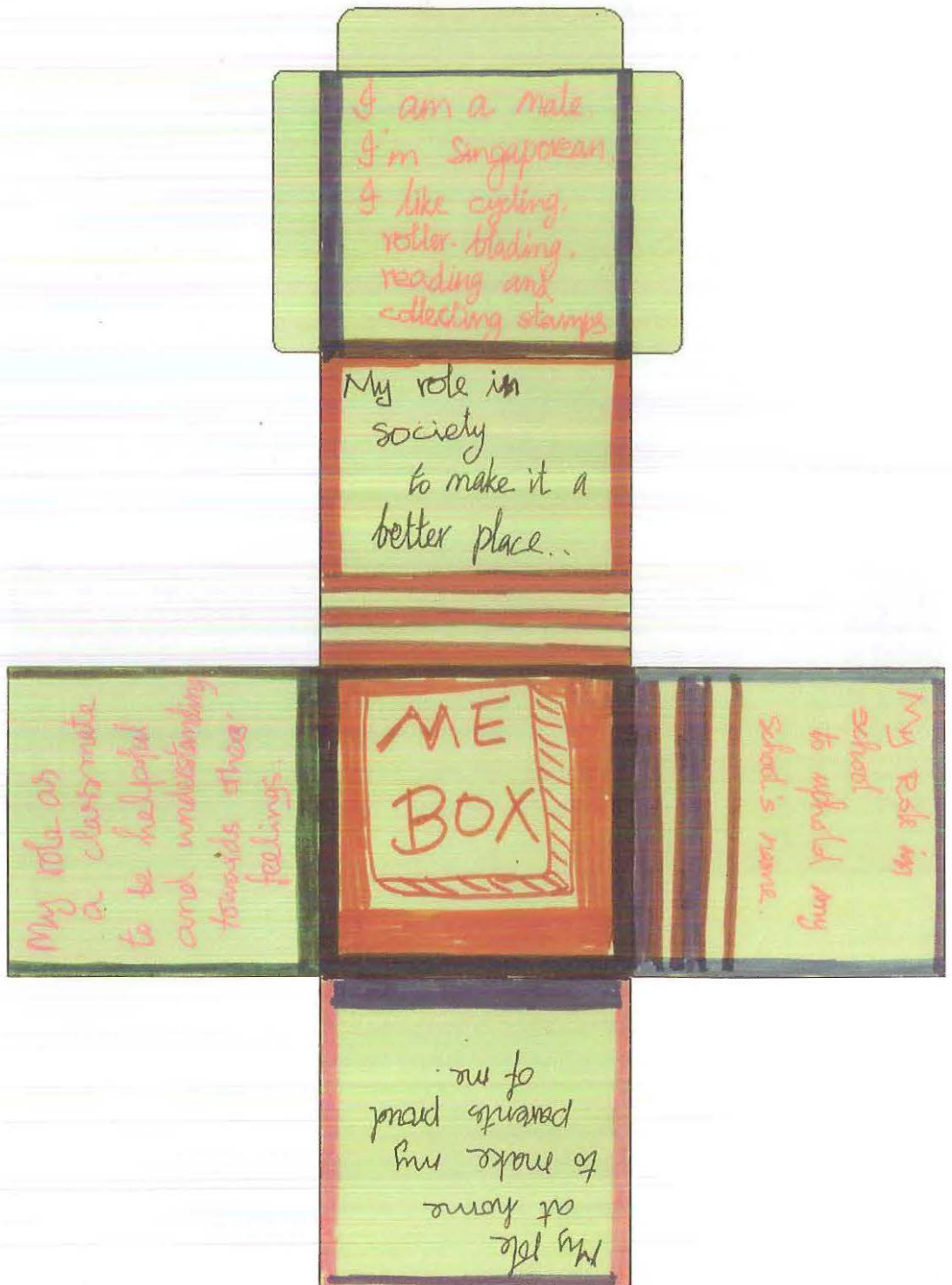
- Expectations since I joined this program:
- Do not have to put up with unkind remarks.
- Teachers have been very friendly and understanding.
- Do not have to pretend that I don't know the answers.
- I'm proud to do well in this program

Appendix 8.5.1 Writings on the Outside of the Box





Appendix 8.6.1 Writings on the Outside of the Box



Pre-School Experiences

Pleasant

liked
English
and art
teacher
alot

unpleasant

- Lonely at times
- not many friends
- cannot remember any friends

Primary School Experiences 1-3

Pleasant

- No pleasant memories

unpleasant

used to feel left out classmates were mean

my expectations

Parents should
not pressurize
their children.
Teachers should
always be facilitators
not robots.

Expectations

high expectations
from everyone
worried about it.
Don't want to
disappoint my
parents.

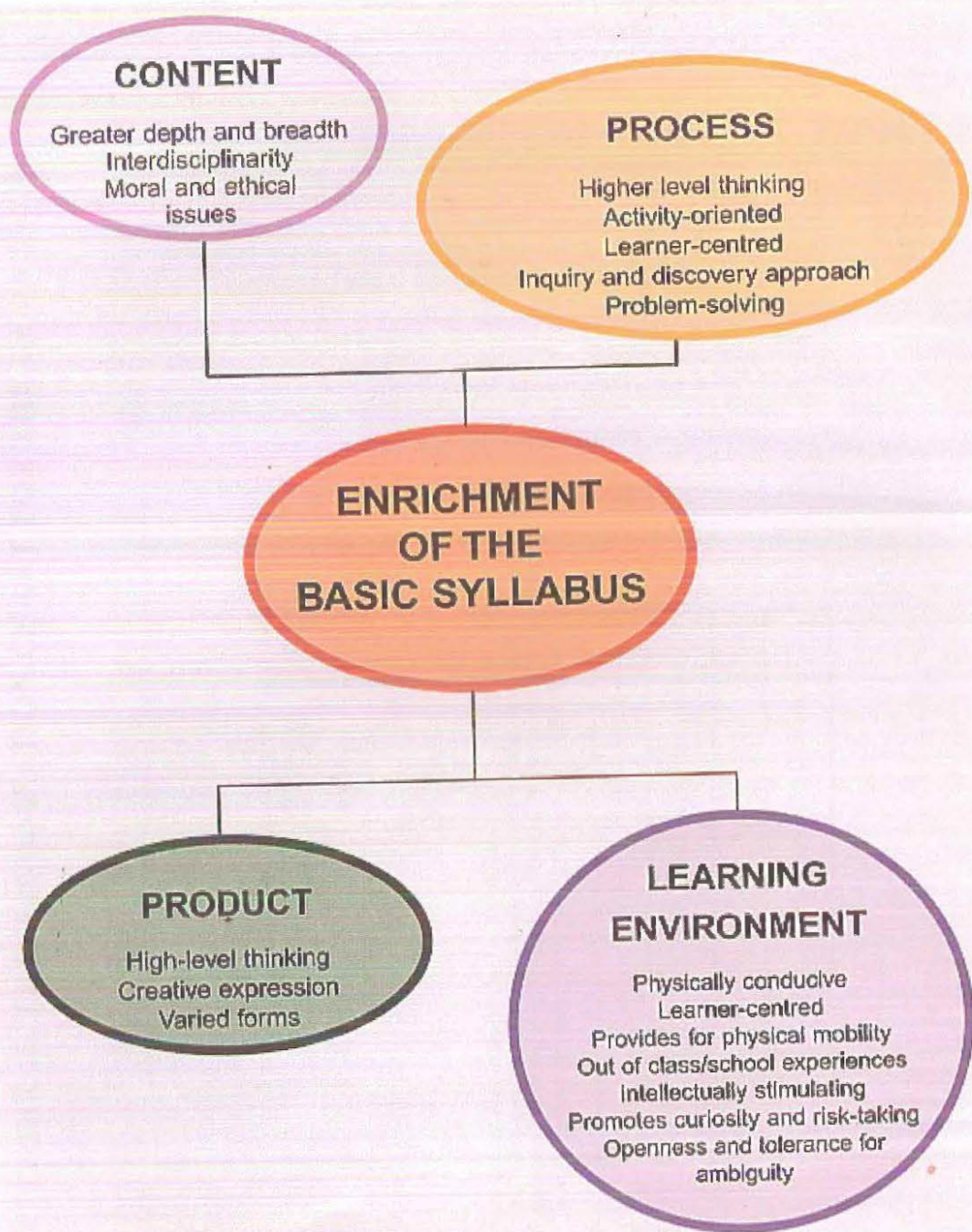
NEP Experiences

Teachers: Fun, Challenging
more intelligent
Peers: Friendly,
understanding and
smart
Lessons: More interesting,
enriching, variety and
interesting fieldtrips.

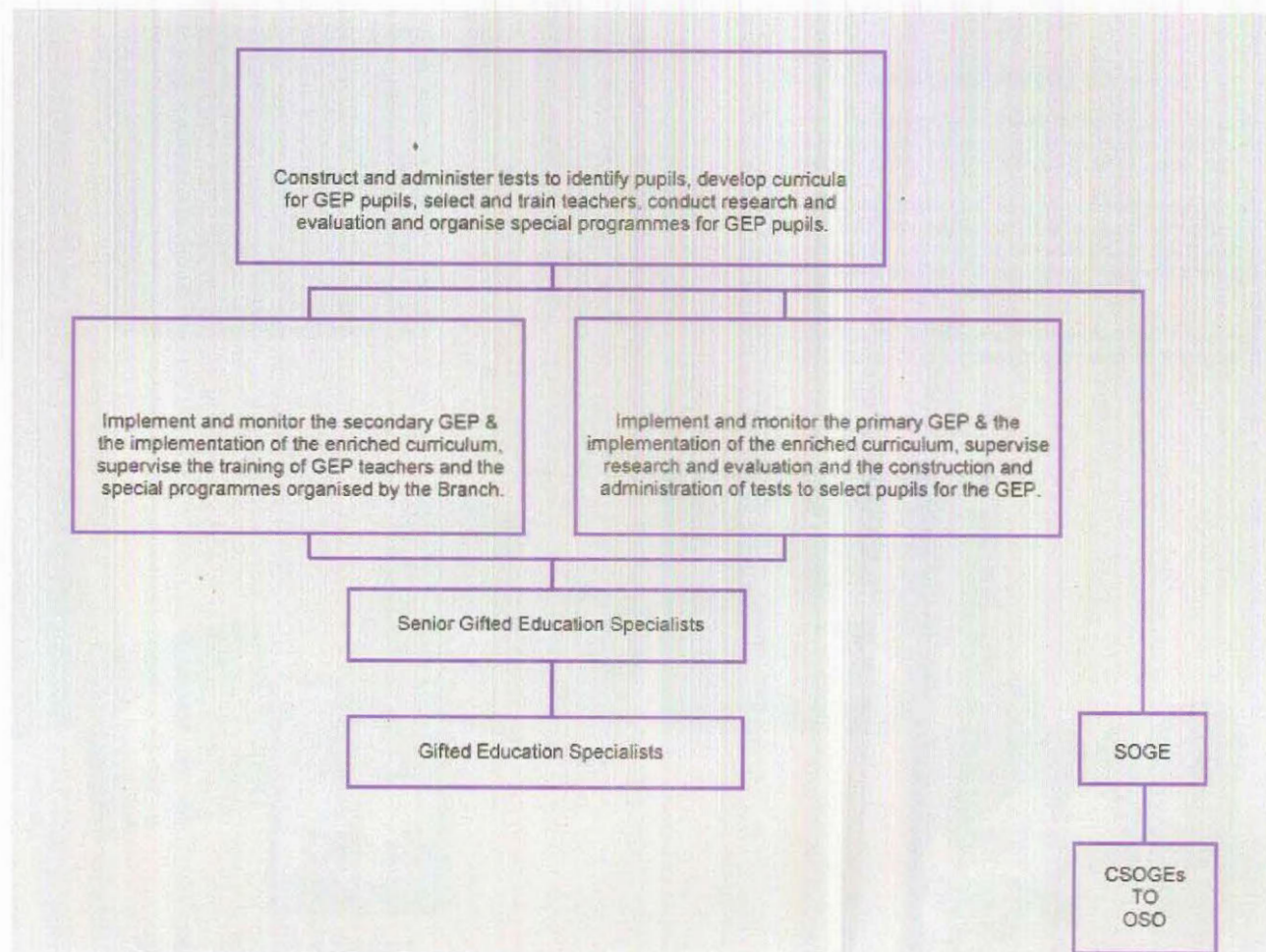
Self-image

Positive	Confident	Friendly	Hardworking	And reader	Know how	to play
Negative	Weak in	Chinese	Don't like	music	classes	very boring

APPENDIX 9. THE ENRICHMENT MODEL

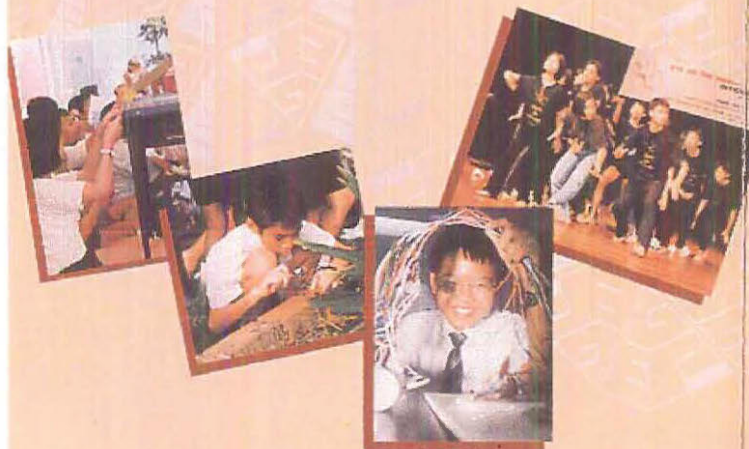


APPENDIX 10. THE ORGANISATION CHART FOR THE GE BRANCH



APPENDIX 11. THE GEP BROCHURE FOR PARENTS AND STUDENTS

The Gifted Education Programme



Ministry of Education, Singapore

Why is there a programme for the gifted?

The mission of the education service in Singapore is to mould the future of the nation. We are committed to developing the diverse talents and abilities of our pupils to bring out the best in them.

Research has shown that 1 to 2 per cent of the population is intellectually gifted and that such learners have different needs compared with their peers. If these intellectually gifted learners are to realise their full potential, the school curriculum must be designed to meet their needs.

Since 1984, the Gifted Education Programme (GEP) has been serving the needs of intellectually gifted pupils in Singapore.



What does the GEP seek to do?

The aim of the GEP is to equip pupils with the intellectual skills and attitudes necessary to cope with the challenges of a fast-changing society. It also seeks to develop their abilities and values so that they will be at the forefront of change and progress, working for the betterment of society.



The goals of the GEP are:

- to develop higher level thinking processes commensurate with the child's intellectual ability
- to nurture creative productivity
- to develop skills, processes and attitudes for self-directed lifelong learning
- to enhance the child's self-concept and aspirations for self-fulfilment
- to encourage the development of a social conscience and a sense of commitment to contribute to society
- to develop leadership qualities

How does the GEP help pupils develop into well-adjusted individuals with a commitment to society?

The GEP seeks to help pupils become well-adjusted and responsible individuals through the following:

Civics and Moral Education and Pastoral Care

- exploration of issues and responsibilities facing gifted pupils
- discussion of personal, moral and ethical issues
- inculcation of wholesome values and attitudes
- experience of working in groups and for others
- infusion of national education values in the curriculum
- pupil interaction in small groups facilitated by the teacher

Community Involvement Programmes

- service to others
- raising funds for the less fortunate
- caring for the school and the environment

Counselling

- counselling of pupils by teachers and by counsellors attached to the Gifted Education Branch



How does the GEP meet the intellectual needs of the gifted?

The GEP seeks to meet the intellectual needs of the gifted through the provision of an enriched curriculum within a stimulating and interactive environment.

The Enrichment Programme

Enrichment in the GEP is built on the regular curriculum. The GEP curriculum is differentiated through enrichment in four areas.

Content

- extending beyond the basic syllabus in breadth and depth
- covering more advanced topics whenever necessary
- integrating different subject areas/disciplines
- encouraging the investigation of real-life problems
- promoting the examination of moral and ethical issues in the various subject areas
- providing opportunities to explore topics of personal interest

Process

- developing higher level thinking skills
- providing opportunities for discovery learning
- providing for open-ended problem solving
- teaching research skills for independent study
- varying teaching strategies to cater to different learning styles
- providing for small-group activities and peer teaching
- providing hands-on experiences



Product

- making provisions for work to be presented in a variety of ways and to real audiences whenever appropriate

Learning Environment

- providing a supportive and pupil-centred environment
- providing out-of-school learning experiences, e.g. field-trips, mentorships and community involvement programmes
- setting up a stimulating physical environment
- supporting risk-taking
- encouraging curiosity, divergence of views and new ideas



Mentorship Programmes

In mentorship programmes, pupils have the opportunity to explore their areas of interest and to work with mentors who are experts in their field. Mentors include writers, scientists, engineers and academics from institutions of higher learning and from organisations such as the Ministry of Defence.



How are pupils selected for the GEP?



Pupils enter the GEP either at Primary 4 or at Secondary 1.

All Primary 3 pupils are invited to sit the Primary 3 Screening Test in English Language and Mathematics. Short-listed pupils then sit the Primary 3 Selection Test. The Selection Test comprises English Language, Mathematics and General Ability Tests. From

this, about 1% of the cohort is

selected to join the Primary 4 GEP classes. This is the main intake.

Primary 6 pupils who score three or more A's in the Primary School Leaving Examination (PSLE) are invited to sit the Selection Test. This allows a further number of pupils to be selected to join the GEP at Secondary 1.



Where is the GEP being offered?

The GEP is offered in the following schools:

Primary Programme

- Anglo-Chinese School (Primary)
- Catholic High School (Primary)
- Henry Park Primary School
- Nan Hua Primary School
- Nanyang Primary School
- Raffles Girls' Primary School
- Rosyth School
- St. Hilda's Primary School
- Tao Nan School

Secondary Programme

- Anglo-Chinese School (Independent)
- Dunman High School
- Nanyang Girls' High School
- Raffles Girls' School (Secondary)
- Raffles Institution
- The Chinese High School
- Victoria School

GEP pupils are placed in special classes in these schools where they also have the opportunity to interact with their school mates through various other programmes and co-curricular activities.

Primary GEP pupils sit the PSLE together with pupils in the mainstream. Promotion to the secondary GEP depends on their performance in the GEP from Primary 4 to Primary 6, their attitude towards enrichment and their PSLE results. At the end of Secondary 4, GEP pupils sit the 'O' level examination with pupils in the mainstream.



Ministry of Education
Gifted Education Branch
61 Grange Road, Block 1, #01-09 Singapore 249564
Tel: 631 9582/3

Homepage: <http://www.moe.edu.sg/gifted/gep.htm>



*The GEP is like a crystal.
Just as a shaft of light passing through a crystal is dispersed into its varied hues,
a pupil emerging from the Gifted Education Programme is developed to his/her
full intellectual and moral potential.*

APPENDIX 12. THE STUDENT'S PATH THROUGH THE GEP

