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Gender and Educational Performance: The Malaysian Perspective

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Abstract

National Examination results at ages 12, 15 and 17 in 1996-2000 have shown that girls perform better than boys across almost all school subjects and enrolments of male and female students at university levels have also shown that the percentage of female students has increased from 50 in 1996 to 56 in 1999. It has been found that girls seem to do better on sustained tasks that require memorising abstract, unambiguous facts and rules while boys are more responsive to open-ended tasks which are related to practical and realistic situations that require them to think for themselves.

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1. Introduction

Gender differences with regard to academic performance remain one of the more challenging issues in educational research. Busch (1995) observed that gender studies in the eighties and early nineties concentrated, amongst other concerns, on self efficacy with respect to mathematics, science related subjects and the use of computers where gender differences were well noted. It was found that male students had significantly higher self efficacy than female students in those areas. However, it was also found that in other studies women's performance in mathematics challenged male's supposed superiority in the subject (Bridgeman & Wendler, 1991) and that gender differences in mathematics vary from country to country (Hanna et al., 1990; J. Xu & Farrel, 1992) investigating gender performance of high school graduating Chinese students who took the China Regents Competency Mathematics Examination did not find conclusive gender differences in their results.

In a recent report (ISSUE PAPER, 2000), the Fraser Institute highlighted concerns regarding gender differences within British Columbia's public education system at the K-12 level, in particular, the poor performance of the male students. Reasons for their female counterparts performing better academically included criticism that teaching styles and testing favoured female students. Findings from research also support female students' more positive attitude to their academic work. It has been found they attend to school work and homework more seriously and diligently compared to the male students (Dwyer, 1974; Fennema, 1987; Helpert, 1992; Kelly & Smail, 1986; McCall, 1994); they exhibit different reading interests (McKenna, 1997) different learning styles compared to male students (Mathews, 1991; Othman, 1994; Warren, 1997; Nuby & Oxford, 1996; Picou et al., 1998)

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In Malaysia, similar trends have been observed within Malaysia's public education system. Data from the Malaysian Ministry of Education (2000) reveal that girls consistently outperform boys in public examinations at the primary lower secondary and higher secondary levels in most subjects especially science, English, Malay and mathematics over a period of 5 years. Female academic excellence has manifested itself in the bigger enrolment of female students in public institutions of higher learning in the country. This gender imbalance has serious socio-political and economic implications for Malaysia.

This study was therefore designed to investigate gender differences in academic performance of students in the Malaysian Educational System with the view of establishing a context for achievement for both boys and girls that incorporates pedagogical, organisational and socio-cultural strategies; and for developing whole-school approaches to intervention strategies.

2. Purpose of the Study

The study was carried out with the following objectives:

- To identify the trend and nature of enrolment of male and female students in the education system based on secondary data
- To identify factors that contributes to the differential achievements of male and female students.

Hence the conceptual framework of the study was based on the premise that that student and teacher factors influence the performance of both male and female students. The student factor took into account (a) learning styles that incorporate the four aspects of concrete sequential, abstract sequential, abstract random and concrete random; (b) learning strategies - preparation for learning, learning in the classroom reading competency and preparation for examinations. The value of education from the perspectives of the students, their aspirations and visions, family influence and job prospects were also considered. The teacher factor took cognizance of teaching styles, utilization of teaching resources, critical and creative faculty, teacher personality, and classroom management skills, demonstrations of care, of how rewards, punishments and assessments were carried out. Teachers' interpretation and implementation of curriculum were also examined.

3. Method

This was an exploratory study which employed the questionnaire method in order to collect data on student and teacher profiles, and perceptions of students and teachers on issues related to both student teacher factors. In addition, population trends (1970-2000), secondary data on public examinations conducted over a period of 5 years (1996-2002) and data on student enrolments in public institutions of higher learning (1996-2000) were also addressed.

3.1 Respondents

Respondents were chosen according to the stratified random sampling method that took into account location, gender, level of education, and school type. A total of 6,851 students were identified. This figure comprises 4163 secondary school students; 1,570 matriculations and university students combined, chosen on the basis of gender, institution type, programmes and year of study. This study also involved 1,118 teachers from primary and secondary schools selected according to location, gender, age, qualifications, experience and school type.

3.2 Data Analysis

Secondary data were analysed descriptively while data derived from the questionnaire instrument were analysed using descriptive and inferential methods. Inferential Analyses were accomplished using T-test and ANOVA.

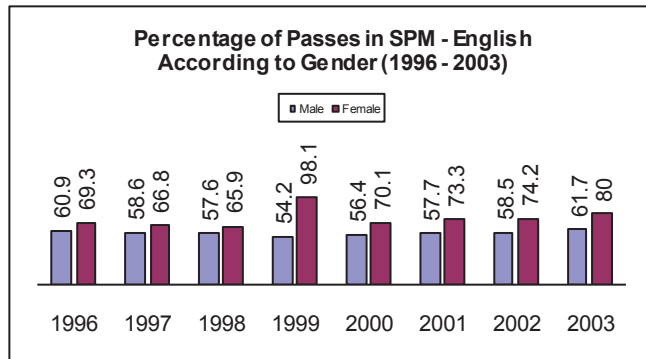
4. Findings

Hence, this study addresses two categories of findings namely those from secondary data and from the questionnaire (primary data).

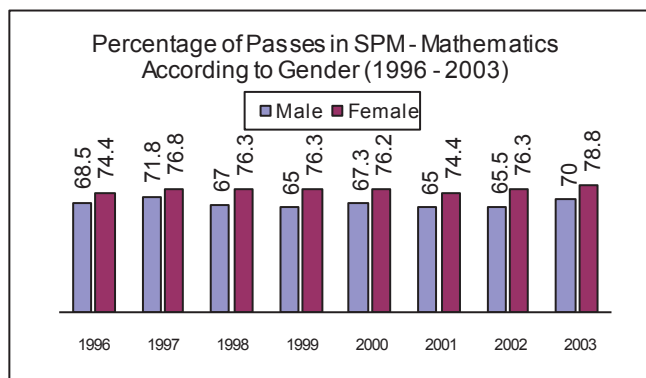
4.1 The secondary data

From the secondary data, it is found that for the last twenty (20) years there has been no gender differential in the population. The male - female ratio for the year 2000 is 102:100. At the primary school level, the male population exceeds that of the female by 2.6-2.8% but the former starts to dwindle at the upper secondary level when the male students start leaving the system after two major public examinations, PMR and SPM respectively. These have resulted in the female population becoming more visible by 30.66% to 32.98% at higher secondary level. Recent data obtained from the Malaysian Ministry of Education reveal that girls have consistently performed better academically in public examinations in most of the subjects with the exception of technical subjects such as technical drawing and technical engineering. The graphs (TABLE 1) below show the trends of gender achievements in three major areas of English, Mathematics and Science for the years 1996-2003.

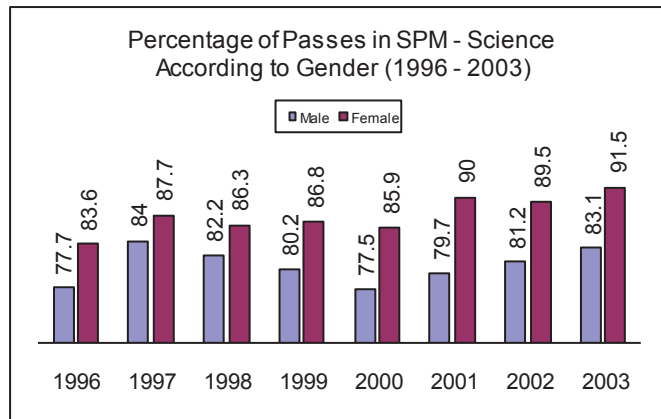
Figure 1. Trends of Gender Achievements in Major Areas of Education



(a) Percentage of gender achievements in SPM English (1996-2003)



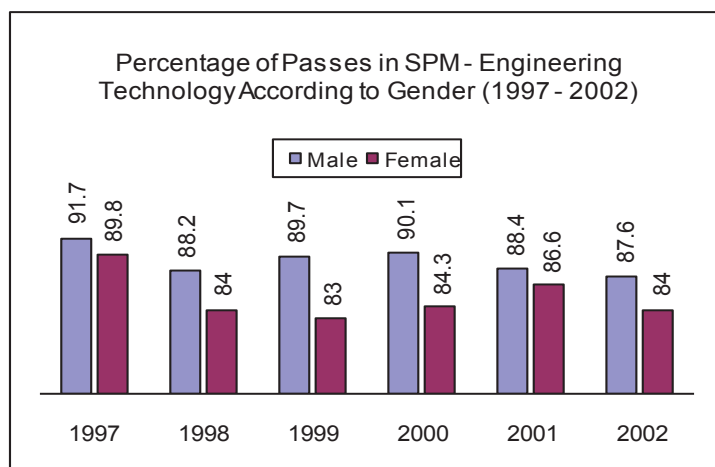
(b) Percentage of gender achievements in SPM Mathematics (1996-2003)



(c) Percentage of gender achievements in SPM Science (1996-2003)

However, female students do not perform as well in technical subjects. The graph that follows (TABLE 2) encapsulates the trends of gender performance in the area of engineering technology.

Figure 2: Gender Performance in Engineering Technology



(a) Percentage of gender achievements in SPM Engineering Technology (1996-2002)

It is, therefore, a matter of course that the female students secure more places at public institutions of higher learning that observe the SPM results as entry requirements. The ratio of male-female students at these institutions is 40: 60 respectively.

The teaching profession in Malaysia is also female dominated. From the data, it is noted that from 1996-2000, a steady decrease in the male population in the schools, from 40,5% (97,921) to 36.57% (97,002) is matched by an increase in the female population from 59.5% (142,473) to 63.43%(169,873) thus yielding a male-female teacher ratio of 1:20. The seemingly lack of male role models may have implications for the male students in their formative years.

4.2 The primary data.

4.2.1 Gender differences in students' academic performance.

In general, female students are more prepared to work and are more focussed. They can concentrate better. They have better reading skills and are better prepared for examinations. They work according to schedule, display better understanding of teachers' schedule, pay more attention to theories, hypotheses, analyses and other academic matters. They are more disciplined and have a higher regard for knowledge. This study also reveals that the female students adopt learning styles that are *concrete sequential* and *abstract sequential*. An interesting observation is that they match the teaching styles of female teachers.

How do students perceive their teachers? Male students generally have better perceptions of their male teaching styles while the female students are more in favour of the teaching styles of their female teachers.

In terms of their educational aspirations, male students show more interest in the work force than in the pursuit of studies which account for their leaving the system earlier but their female counterparts display more defined ambitions and clearer visions of the future as the following Table 1 demonstrates:

Table 1. t-test schedule for gender differences in educational aspirations and career bias

Aspect	Gender	No.	Min	Median	t-value	Sig.
Ambition & vision	Male	2009	4.4690	0.6161	-7.094	0.000**
	Female	2154	4.5953	0.5248		
Family influence	Male	2007	4.5835	0.4874	-4.875	0.000**
	Female	2154	4.6550	0.4567		
Lure of the Work force	Male	2009	1.7561	0.7695	7.369	0.000**
	Female	2153	1.5899	0.6789		
Values and beliefs regarding education	Male	2006	3.6391	0.5513	-0.130	0.897
	Female	2153	3.6412	0.5234		

The girls also perceive tighter family control of their movements compared to the males. The study also reveals that the male students do not share the females' positive evaluation of the school environment that draws the latter closer to the school. Table 2 supports the findings.

Table 2. t-test schedule for gender differences in perceptions of the school environment

Aspect	Gender	No.	Min	Median	t-value	Sig.
Satisfaction with school environment	Male	2001	5.1256	0.9382	-2.997	0.003**
	Female	2144	5.2084	0.8321		
Effect of satisfaction with environment on students	Male	1998	6.0310	0.7233	-4.031	0.000**
	Female	2146	6.1164	0.6334		

The different perceptions exhibited by the two groups are also apparent at the higher levels of the education system which culminates in a greater visibility of females at the tertiary level in terms of academic achievements. A case in point is data derived from one of the largest institutions of higher learning, UiTM where out of 3400 students who graduated in April 2004, 105 (3.08%) students obtained first class honours. Of the 105, 70 (66.7%) are females while the rest are males (33.3%).

4.2.2 Gender differences in the teacher factor

One of the more interesting findings of the study is that there are differential treatments of curriculum and instructions between the male and female teachers as represented by the table that follows.

Table 5. t-test schedule for teachers' perceptions of curricular interpretations and implementations according to gender.

Aspect	Gender	No.	Min	Median	t-value	Sig.
Curricular interpretations	Male	433	4.2550	0.5184	-2.065	0.039*
	Female	685	4.3174	0.4480		
Curricular implementations	Male	433	3.7821	0.5907	-2.470	0.014*
	Female	685	3.8560	0.4718		

The female teachers adhere to the curriculum more closely; they are more examination oriented and perceive their profession more favourably compared to the male teachers. But unlike their female counterparts, the male teachers are more neutral in their treatment of their students. Though female teachers tend to question boys more in the classroom, they would entrust non academic tasks to girls more than they do boys. The learning environment seems to be more supportive of female students.

5. Recommendations

Male population shows a disturbing trend of a yearly decrease of 3.5 % in the pool of male students in the education system resulting in an obvious gender imbalance in the enrolment of students in institutions of higher learning in Malaysia. The study seems to suggest that the males are at a disadvantage since they lag behind academically. Unless the issue is addressed seriously, the socio political and economic impact of this imbalance will be more acutely felt in the next ten years. In Malaysia, education is compulsory but not enforced by law. Hence Malaysian children can leave the system without recourse to law. In order to ensure more male participation in the educational system Compulsory education must be instituted in the following manner:

- Primary Education for school children in the age group of 6 years
- Five (5) years of secondary education.

A one session School System that would allow for more co-curricular activities to be carried out should also be instituted so as to allow for better development of students' affective domains. These activities must be carried out by properly trained teachers. High attrition rates of male students suggest the school system does not support the educational needs of male students. Unlike their female counterparts the learning styles that they adopt are less *concrete sequential* and *abstract sequential* in nature. They are not as focussed on examinations as do the female students. They do not appreciate the learning environment as much as the female students. Hence, they need to have a sense of 'fraternity' in their school. It is therefore recommended that teachers and schools need to have a better understanding of the profile of the male students and their academic needs. This can only be accomplished through action research. Teachers should also take on the role of nurturing the potential of their male students through alternative teaching models, like giving them more tasks based and hands on activities. Compulsory in-service training for continuous professional upgrading of teachers need to be carried out to ensure effective and quality teaching.

Problems of discipline pertaining to gender must be addressed by both parents and teachers.

An alternative route should be provided to male students who fail to secure places in institutions of higher learning and who would wish to return to school later in life. This will require institutions to recognise prior learning.

Curricular issues must address methods of assessment in schools to allow for more flexibility in the evaluation system. The present system of assessment that weighs heavily on public examinations seems to disadvantage the male students. Alternative measures that include continuous assessments, and problem solving projects to mention a few would enable the latter to be more receptive to their school.

As an intervention strategy, the Malaysian government has just implemented a compulsory ‘national service’ programme for youths in the age range of 18 –25 years. This programme focuses primarily on community service, personality development and good citizenship; the final outcome would surely be a databank for the future planning and monitoring of youths.

6. Conclusion

Secondary data demonstrate the trend that female students are more successful academically and thereby confirming findings of research conducted in other developing countries. Primary data show that female students’ learning characteristics contribute substantially to their academic excellence. However, this exploratory study has merely scratched the tip of the iceberg. Further research is needed to explore the nature of male and female anxiety about learning/schooling and its consequences for academic performance and to develop whole-school approaches to intervention strategies.

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