

Chapter Four

Providing Equal Opportunities in Education

4.1 Introduction

This chapter emphasizes two major patterns. One is the pattern related to equality of outcomes. That is the average level of achievement and how the provinces have been able to reach at least the national average level. The other is the comparison of the opportunities provided according to the gender (male and female), the location of schools (urban and rural), the medium of instruction (Sinhala, Tamil and English), and the three school types (1AB, 1C and Type 2). In order to assess the equality of outcomes, mean values of the test scores are compared, in the analysis of relevant data.

Equal opportunities in Education

Equal opportunities refers to the following

- ❖ Equality of access - ensuring that people have same opportunities as are available to others.
- ❖ Equality of outcomes - an attempt to ensure that a particular group (eg. boys) reach levels of achievement equal to another group (eg. girls)
- ❖ Equivalent experience - enabling each person to fulfill their potential

- Michael Farrel

4.2 Differences in Mean Values Among Provinces

A comparison of provincial mean values in the three subjects with the all island mean values that indicating the average performance levels, is the best approach to find out if the provinces have been capable of providing equal opportunities or providing education on an equity basis. Table 4.1 gives detailed information on the mean values in the three subjects for the nine provinces.

Table 4.1 - Provincial Mean Values for the Three Subjects (2005 and 2008)

Province	2005			2008		
	First Language	Science and Technology	Mathematics	First Language	Science and Technology	Mathematics
Western	63.30	56.73	48.45	64.13	63.78	56.90
Central	59.10	52.85	44.83	51.62	57.54	49.30
Southern	58.80	50.33	44.27	59.08	56.06	48.64
Northern	58.36	55.68	43.72	59.27	47.09	47.53
Eastern	57.79	53.15	44.78	57.14	48.69	45.98
North Western	61.04	51.34	45.26	65.21	59.38	52.69
North Central	60.43	47.29	46.94	58.97	56.12	48.35
Uva	58.74	52.93	43.27	56.39	52.29	45.57
Sabaragamuwa	59.65	54.43	44.68	61.90	58.36	50.42
All Island	59.89	53.19	45.19	59.87	56.32	50.45

a) Differences Among Provinces in First Language Mean Values

Figure 4.1 shows the position of the nine provinces in First Language, when compared with the all island average, in 2005. It is quite clear from the values given in Table 4.1 and in Figure 4.1, that the Western Province has been able to provide better opportunities for its students, in year 2005. The very same pattern is evident in the Western Province in year 2008; this Province has been able to maintain its leading position among all other provinces (See Figure 4.2). Figure 4.1 gives mean values of 61.04 and 60.43 in First Language for North Western and North Central Provinces respectively; these two provinces have been able to provide equal opportunities to study the First Language on an equity basis in education. The position of the North Western Province has remained the same in year 2008, obtaining a mean value above the all island average.

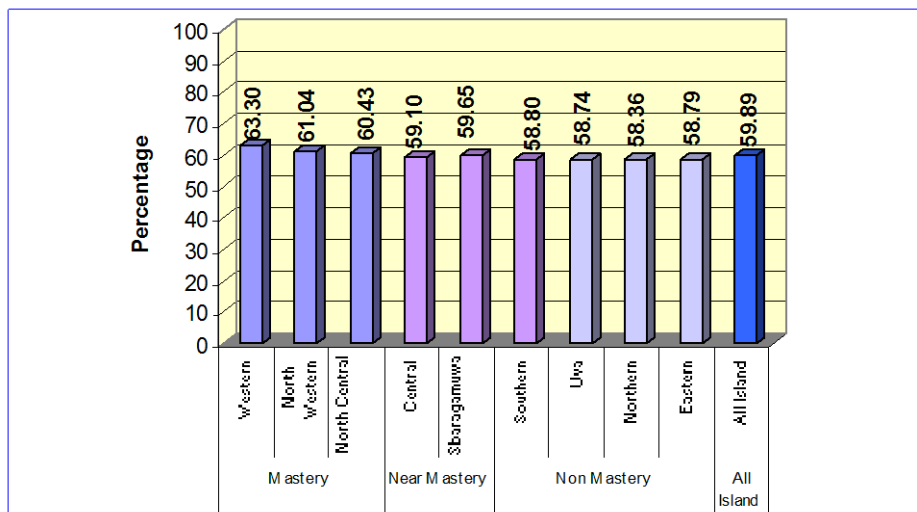


Figure 4.1: Comparison of First Language Provincial Mean Values with All Island Mean Value - 2005

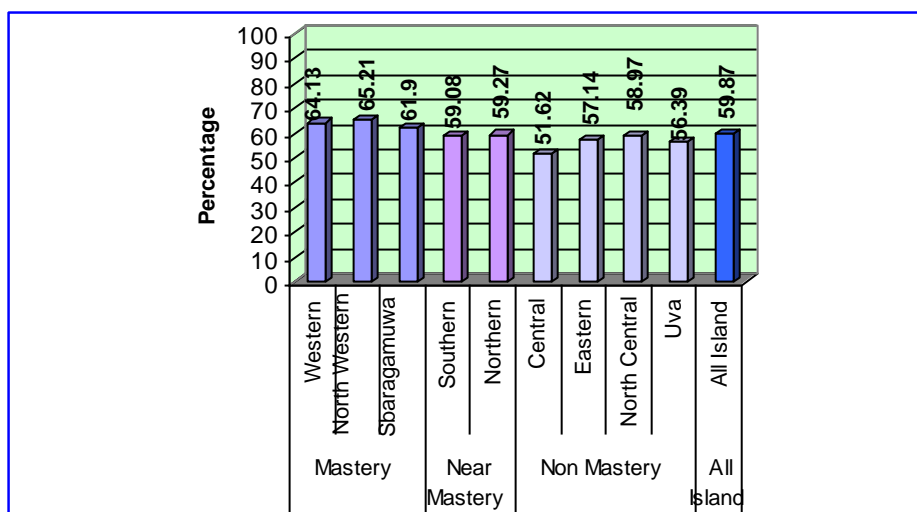


Figure 4.2 Comparison of First Language Provincial Mean Values with All Island Mean Value - 2008

The North Central Province could secure only a position below the all island average, in year 2008. However, Sabaragamuwa Province which was in par with the national average in year 2005 has been able to secure a mean value above the all island average in 2008, confirming that this province has been able to provide better opportunities for their students in year 2008. The Central Province which had a mean value in par with the all island mean value in year 2005, shows an average performance level in First Language in 2008 which is below the all island average. In both years, mean values of the Eastern and Uva Provinces are below the all island average. The position of Southern and Northern Provinces is better in 2008 than in 2005. The students in Eastern and Uva Provinces have been provided with lesser opportunities in both years and the Central Province, which provided equal opportunities previously, has not been able to maintain this position in year 2008. These facts confirm that though the Western and North Western Provinces have been able to maintain their position in providing better opportunities for studying First Language, Uva and Eastern Provinces have not been able to achieve that target during this period. Compared to the other provinces, the position of Central Province is not satisfactory. When the difference between lowest mean value and the highest mean value of the provinces are compared, the difference which was 5.51 in year 2005 has increased up to 13.59 in year 2008. This indicates that the variation in mean scores is wider; what is understood from this increase is that in providing equal opportunities in studying First Language, the provinces in general have not been successful, during the last few years.

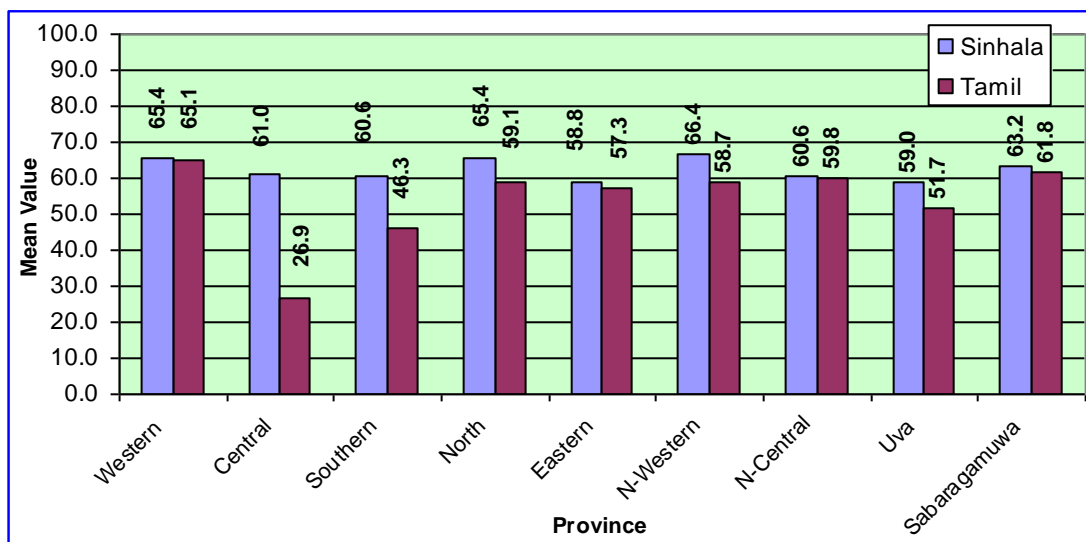


Figure 4.2.1: Differences in Mean Values among Provinces (Sinhala and Tamil)

Figure 4.2.1 indicates the differences in mean values among provinces by Sinhala and Tamil Languages. Mean values of Sinhala Language in all provinces are higher than the mean values of Tamil Language. The differences between two languages are low in Western, North Central and Sabaragamuwa provinces. A considerable differences can be seen in North Western and Uva Provinces. The differences are very high in central (34.1) and Southern provinces (14.3). Provision of equal opportunities in studying First Language (Tamil) in all provinces should be increased. Especially in Central Province, provincial, zonal authorities should implement effective programmes to improve the standards in First Language.

b) Differences Among Provinces in Science and Technology Mean Values

In year 2005 the all island mean value in Science and Technology was 53.19. Western, Northern and Sabaragamuwa Provinces have achieved higher mean values than the all island average in Science and Technology. This shows that these three provinces have been able to provide better educational opportunities in Science and Technology for their students. As was the case in First Language, Western Province has taken the lead among the provinces in 2005 as well as in 2008 (See Figures 4.3 and 4.4). Sabaragamuwa Province too has been able to maintain its position, providing better opportunities in both years, obtaining mean values higher than the all island average. Though the Northern Province had a mean value above the all island average in year 2005, in 2008 this Province had not been able to maintain its previous position. In both years, the Uva province has fallen within the group of provinces which have mean values below the all island average.

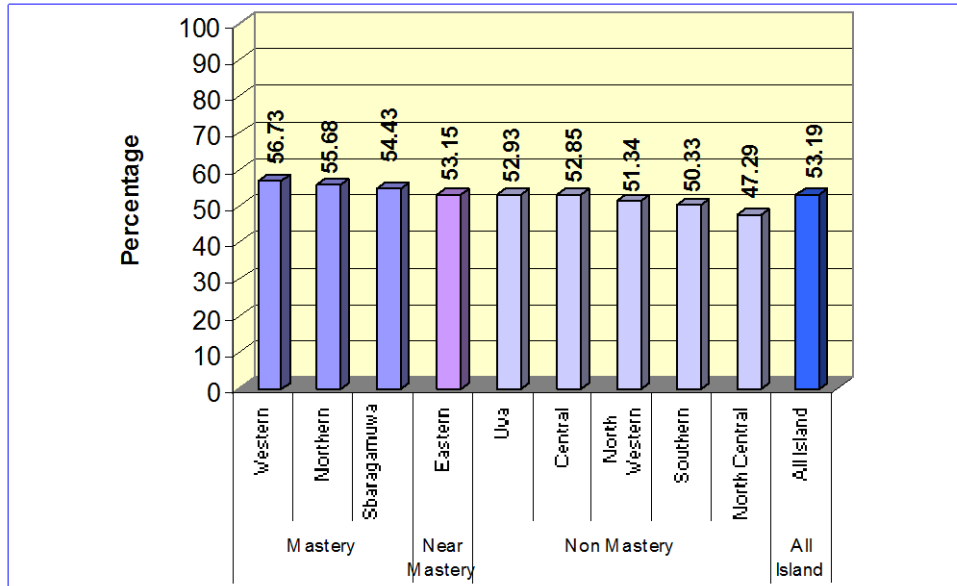


Figure 4.3: Mean Values in Science and Technology by Province - 2005

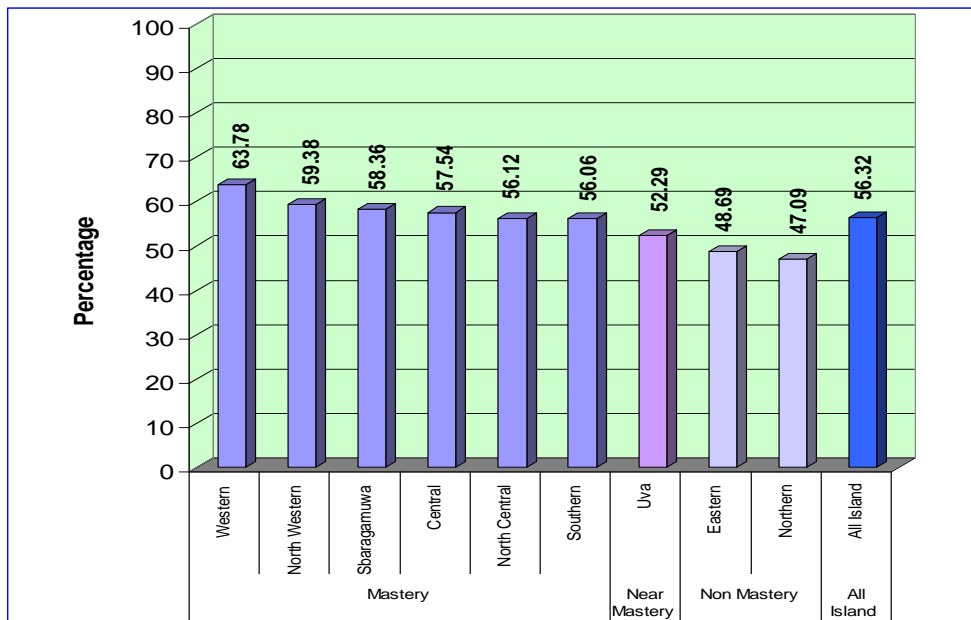


Figure 4.4: Mean Values in Science and Technology by Province - 2008

Though the Eastern Province had an average performance level which was in par with the all island average in year 2005, it is far below the all island mean in year 2008. Southern and North Central Provinces are in the group which has achieved average performance level, some what similar to the average performance level in 2008. (what you indicate is not quite clear) These data reveal three main patterns. First, is the ability of Western and Sabaragamuwa Provinces to provide better educational opportunities during the last few years, when compared with the all island mean value of Science and Technology. The second pattern is that Uva

Province has always been poor in providing equal opportunities in Science and Technology; so in First Language. Southern, North Western and North Central are the Provinces that indicate a pattern of improvement in providing equal opportunities in Science and Technology. The difference between the lowest and highest mean values of the provinces in Science and Technology was 9.44 in 2005; it has gone up to 16.69 in 2008. This means that the provision of equal opportunities in Science and Technology has widened, three years after 2005.

c) Differences among Provinces in Mathematics Mean Values

In Mathematics, a pattern similar to what was evident in Science and Technology is indicated, in the Western and North Western Provinces. In both years these two provinces have achieved a mean value above the all island average, showing their ability to provide better educational opportunities. (See Figures 4.5 and 4.6)

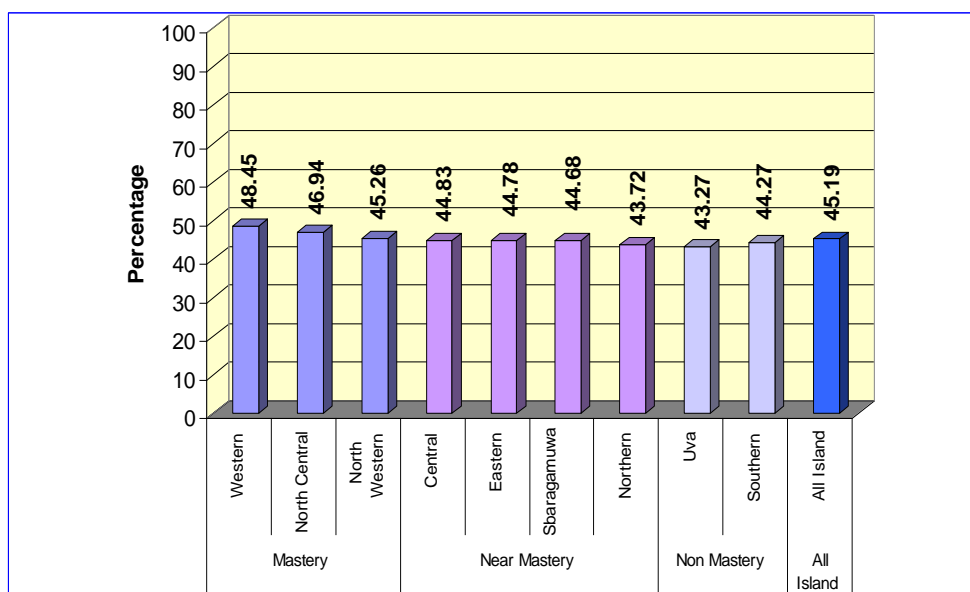


Figure 4.5: Mean Values in Mathematics by Province - 2005

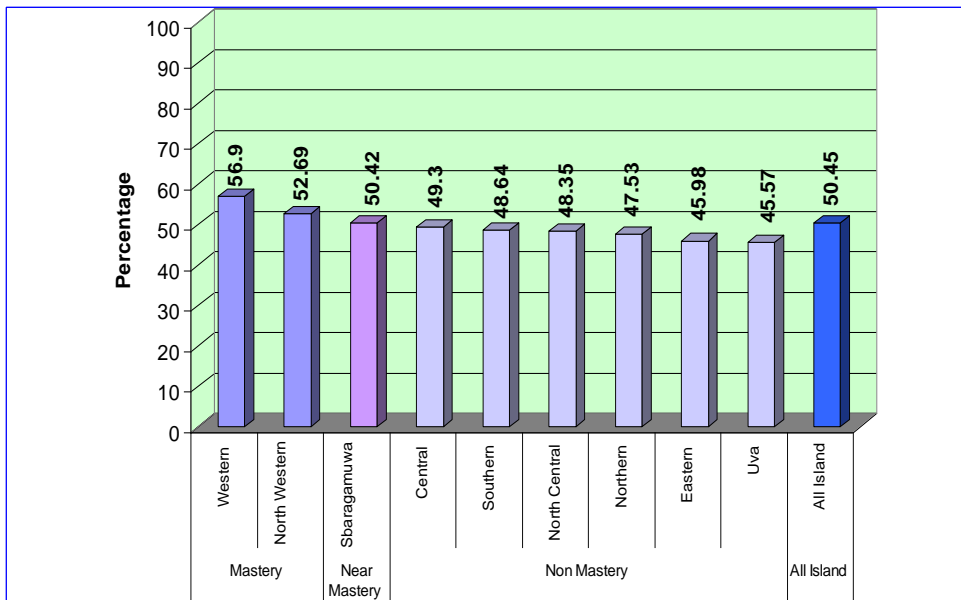


Figure 4.6: Mean Values in Mathematics by Province - 2008

North Central Province which has secured a better standing in year 2005 shows a comparatively poor status in year 2008. Uva, Central, Southern, Northern and Eastern Provinces have mean values below the all island average, in both years. This shows that the provision of Mathematics education on an equity basis has not been achieved, in these five provinces, in the last few years. These provinces have been poor in providing equal opportunities for their students. On the other hand, the provision in the Sabaragamuwa Province has improved, in year 2008. The difference between the lowest mean value and the highest mean value in year 2005 was 5.18; this difference has gone up to 11.33 in year 2008. This upward movement shows that the provision of equal opportunities in Mathematics education has been successful, during the last few years.

4.3 Gender Differences in Achievement

Providing equal opportunities in education for the two groups male and female is a need in fulfilling the targets of equity in education. The mean values given in Table 4.2 identifies the patterns in the average performance levels of male and female students in the three subjects First Language, Science and Technology and Mathematics, tested in the two years.

Table 4.2 - Mean Differences Based on Gender of Students

	Male		Difference	Female		Difference
	2005	2008		2005	2008	
First Language	57.7	56.13	-1.57	61.9	63.19	-2
Science and Technology	52.7	55.97	3.27	53.2	56.64	3.44
Mathematics	44.4	49.2	4.8	45.9	51.56	5.66

Table 4.3 - Standard Deviation and Standard Error of Mean Values Hiven in Table 4.2

Subject	Standard Deviation				Standard Error			
	2005		2008		2005		2008	
	Male	Female	Male	Female	Male	Female	Male	Female
First Language	17.7	17.1	20.2	18.7	0.0490	0.046	0.313	0.272
Science and Technology	19.0	18.2	20.6	19.2	0.0524	0.0484	0.3791	0.2792
Mathematics	17.6	16.7	19.1	18.7	0.0490	0.0445	0.296	0.271

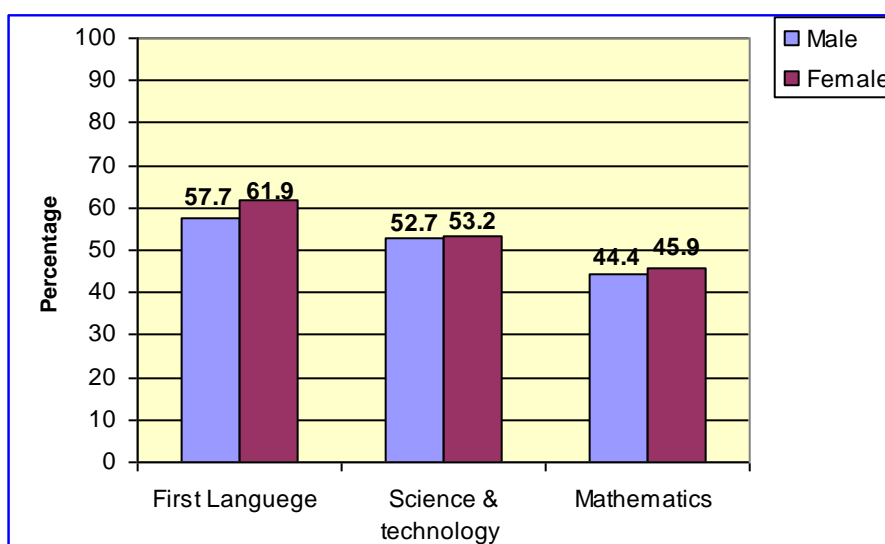


Figure 4.7: All Island Differences in Mean Values, by Gender - 2005

As is graphically represented in Figures 4.7 and 4.8, it is clear that in both years in all three subjects, female students have performed better than the male students. This pattern is common in Sri Lanka. In most other countries, the pattern is that the female students perform lower than the male students. The internationally evident trend is that there are more educational opportunities for male students than for female students.

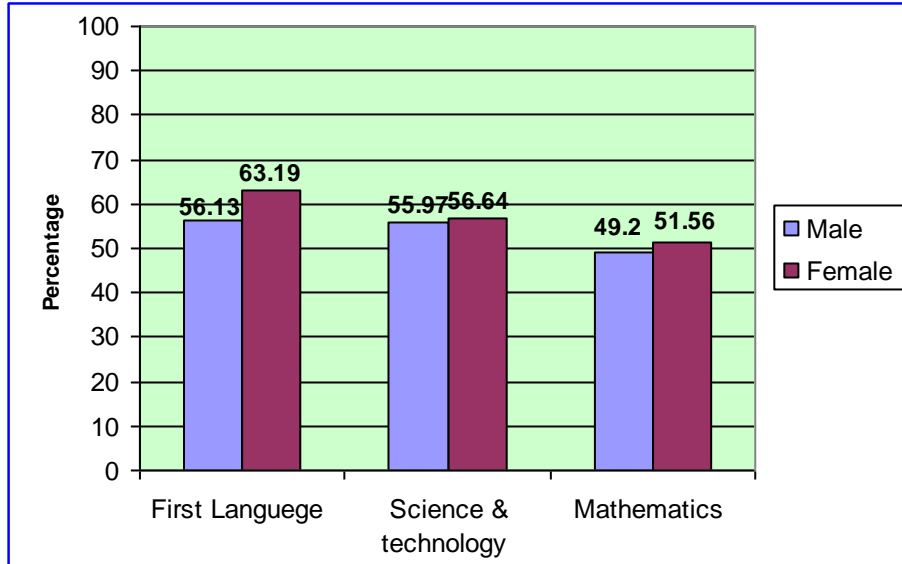


Figure 4.8: All Island Differences in Mean Values by Gender - 2008

In Sri Lanka, the pattern is that female students perform better than do male students. It has to be noted that though the differences in scores between male and female is not so large in Science and Technology, the differences between mean values in First Language have been larger than in the other two subjects, in both years. It has therefore to be concluded that gender inequality in providing education in Sri Lanka is less and in general, there are equal opportunities for both genders.

4.4 Providing Education on an Equity Basis for Urban and Rural Students

In this study schools located in all Pradeshiya Sabha areas are considered as rural schools. Schools located in Municipal Council areas and Urban Council areas are treated as urban schools. The urban and rural schools are categorized on the above basis, for statistical analysis. Statistical data on three subjects, gathered in the 2005 and 2008 studies are given in Table 4.4. The mean values for the three subjects are given separately, along with the differences between urban and rural students.

Table 4.4 - Mean Differences Based on Location of Schools

School Location	First Language		Science and Technology		Mathematics	
	2005	2008	2005	2008	2005	2008
Urban	65.8	61.29	57.5	58.04	52.3	53.16
Rural	59.2	59.1	52.4	55.09	44.4	48.9
Difference	6.6	2.19	5.1	2.95	7.9	4.26

Table 4.5 - Standard Deviation and Standard Error Related to Mean Values Given in Table 4.4

Subject	Standard Deviation				Standard Error			
	2005		2008		2005		2008	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
First Language	16.8	17.5	17.661	19.986	0.116	0.036	0.388	0.222
Science and Technology	18.6	18.5	20.5126	19.4942	0.123	0.038	0.445	0.217
Mathematics	19.1	16.7	19.384	18.391	0.128	0.034	0.422	0.204

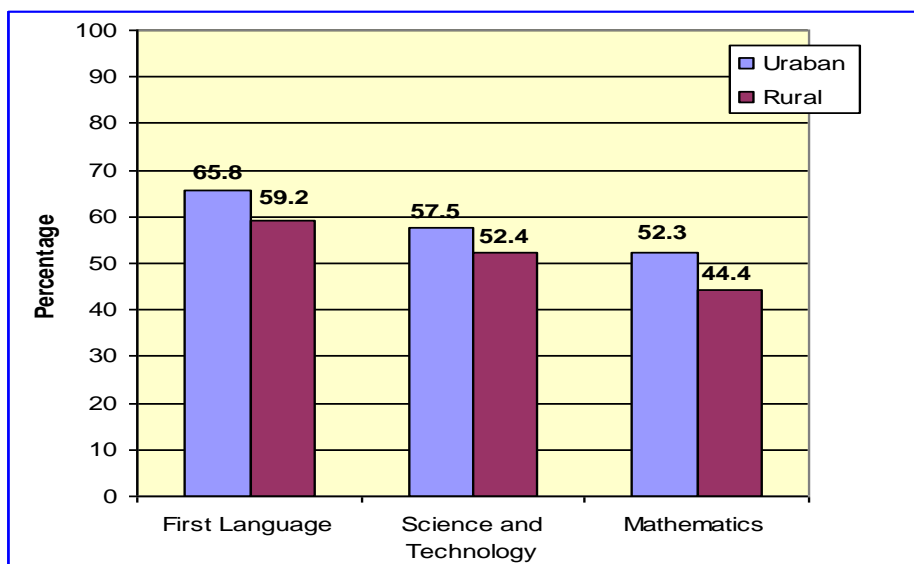


Figure 4.9: All Island Differences in Mean Value, by Location - 2005

In providing education on an equity basis for the students, in First Language, two patterns are evident in the differences in urban and rural areas, in year 2005. One is the differences between the two groups.

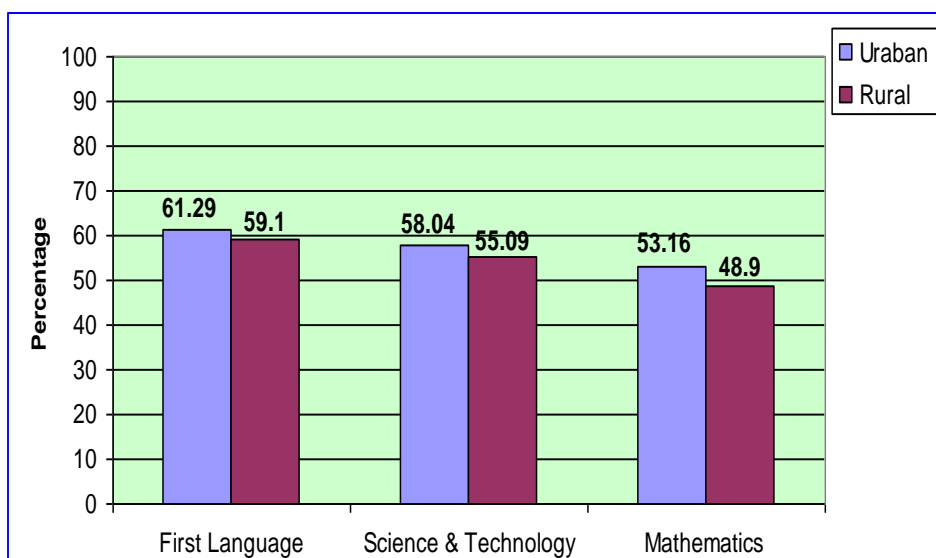


Figure 4.10: All Island Differences in Mean Values, by Location - 2008

The other is the improvement noted in providing equal opportunities during the last three years. (See Table 4.4 and Figures 4.9 and 4.10).

In First Language, there was a difference in mean values of the urban and rural students in year 2005 and, this difference is seen in 2008 as well. The difference in mean values of urban and rural students in Science and Technology is also noted in both years. A similar pattern is noted in Mathematics; urban and rural differences are seen in 2005 and in 2008. Urban students show higher mean values than those of rural students, in all these cases. This shows that rural students are provided with lesser opportunities than the urban students. Thus, providing education on an equity basis for urban and rural students is yet to become a reality.

The other pattern is that urban and rural differences have been decreasing during the last three years. In 2005, urban and rural mean difference in First Language was 6.6, but in 2008 this differences has come down to 2.19. In Science and Technology, though there was a difference of 5.1 between urban and rural mean values in 2005, it has come down to 2.95 in 2008. In Mathematics too the pattern of lower mean values is evident; the difference between urban and rural mean values in 2005 was 7.9, where as it has come down to 4.26 in 2008. All these figures confirm the fact that differences in the provision of education on an equity basis for urban and rural students are decreasing, gradually.

4.5 Differences in Achievement Based on Medium of Instruction

Table 4.6 - Mean Differences in Learning Achievement Based on Medium of Instruction

Medium of Instruction	First Language		Science		Mathematics	
	2005	2008	2005	2008	2005	2008
Sinhala	60.3	61.44	54.4	59.19	44.6	50.64
Tamil	58.4	53.52	47.6	46.69	47.4	46.43
English	-	76.55	-	64.99	-	53.52

Table 4.7 - Standard Deviation and Standard Error of Mean Values Given in Table 4.6

Subject	Standard Deviation						Standard Error					
	2005			2008			2005			2008		
	Sinhala	Tamil	English	Sinhala	Tamil	English	Sinhala	Tamil	English	Sinhala	Tamil	English
First Language	17.2	19.0	-	18.145	22.084	11.974	0.038	0.075	-	0.233	0.432	0.763
Science & Technology	18.6	18.5	-	19.475	18.042	16.792	0.0405	0.0707	-	0.250	0.353	1.073
Mathematics	16.7	18.5	-	19.109	18.038	14.265	0.0367	0.0737	-	0.246	0.353	0.911

In Sri Lanka, there are three main media of instruction: Sinhala, Tamil and English. Though the majority of students study in their mother tongue, there are many instances when they study in another medium than the mother tongue. In some cases, students who use Tamil as mother tongue in their home, use Sinhala as their medium of instruction. In some instances, the students who use Sinhala as their mother tongue study in Tamil medium schools. Most students who use English as medium of instruction use Sinhala or Tamil as their mother tongue at home. In certain instances, this medium of instruction is decided according to the facilities available in the area. In some other cases, the medium of instruction is decided by parents who opt to send their children to international schools or, if not, to government schools in which English medium classes are conducted. Data on the differences in achievement levels based on medium of instruction is given in Table 4.6 and Figures 4.11 and 4.12.

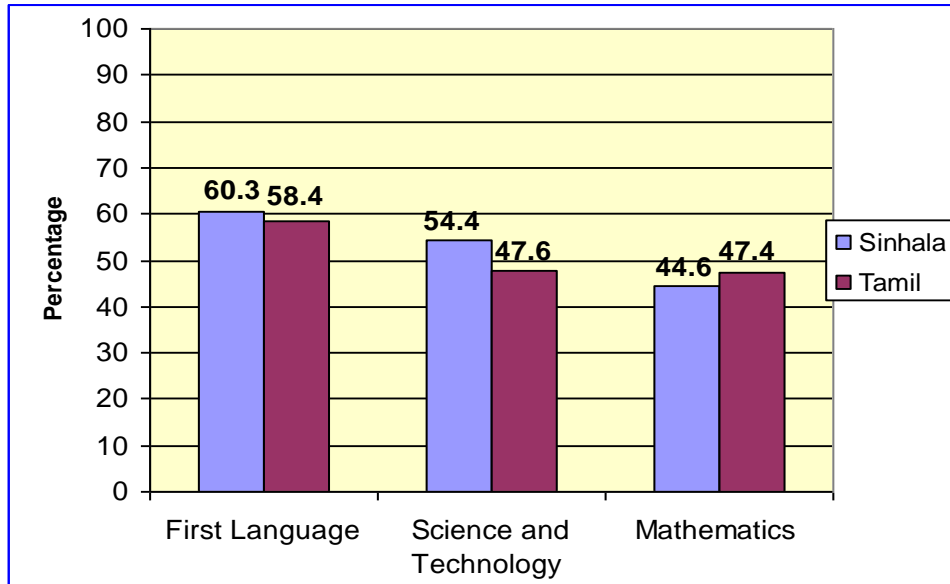


Figure 4.11: All Island Differences in Means by Medium of Instruction -2005

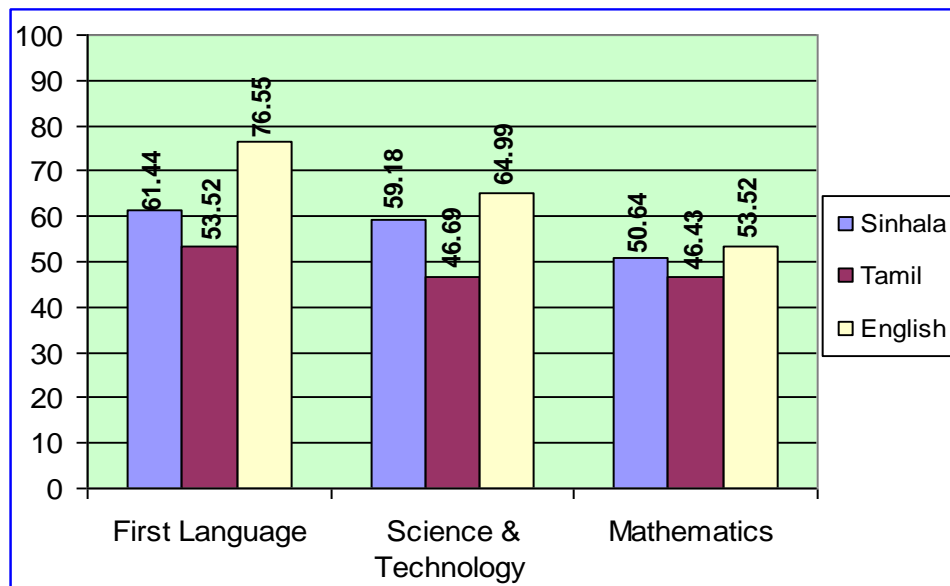


Figure 4.12: All Island Differences in Means by Medium of Instruction - 2008

The values given in Table 4.6 and Figures 4.12 indicate that the most important pattern that emerges is the higher performance level of English medium students. There were no English medium students tested in the sample, in 2005. As a result, English medium data is available only for 2008. In year 2008, First Language mean value of the English medium students has been the highest. When compared with the mean value of the Tamil medium students, Sinhala medium students mean difference is 23.03, which is a very large difference. In the subjects Science and Technology and Mathematics too there are large differences but not so large as in First Language.

The next pattern is that in both years, Sinhala medium students show better achievement levels than Tamil medium students, in the two subjects, First Language and Science. In 2005, the performance of Tamil medium students in Mathematics out-performed that of Sinhala medium students. In 2008 however, the average performance level of Tamil medium students in Mathematics was lower than that of Sinhala and English medium students. These figures highlight two patterns. The first pattern is that opportunities provided for Sinhala medium students range in between the opportunities provided to English medium and Tamil medium students. The second pattern is the low opportunities made available to the Tamil medium students. These patterns confirm that when the indicator is mean values by the medium of instruction, the provision of equal opportunities or providing education on an equity basis has not been successful at Grade 08 level, during the last few years.

4.6 Differences in Achievement by School Type

In Sri Lanka, there are five main school types: 1A schools in which advanced level classes are held in all four streams, Arts, Science, Commerce and Aesthetic subjects. The availability of student hostels is another criteria. In the school type categorized as 1B, there are no student hostels though there are the four main streams for higher studies up to advanced level.

Table 4.8 - Differences in Mean, Standard Deviation and Standard Error of Mean Values by School Type - First Language

School Type	Mean Value		Standard Error		Standard Deviation	
	2005	2008	2005	2008	2005	2008
1AB	66.99	67.04	0.088	0.305	16.6	17.4
1C	59.71	58.63	0.059	0.312	17.4	19.2
Type 2	58.48	52.98	0.045	0.371	17.5	20.2

When the two school types – 1A and 1B are taken together, they are categorized as 1AB schools. They may conduct classes from either Grades 1 to 13 or 6 to 13. The schools categorized as 1C may have advanced level classes in three of the streams, other than Science. They do not have student hostels. Usually their classes range

from grades 1 to 13. Schools having classes either from grade 1 to 11 or 1 to 9 are categorized as type 2 schools. Type 3 schools have classes from grades 1 to 5. There are some other categories of schools such as National schools, Navodya schools etc, named according to administrative procedure, authority or project funding purposes. For purposes of this study only the type of schools having Grade 08 classes and, based on the usual categorization is considered.

Table 4.8 and Figures 4.13 and 4.14 provide information on the provision of equal opportunities in learning First Language, by the three types of schools; three patterns clearly emerge, in this analysis. One is the higher mean value of the 1AB schools, around 67 in both years. The other is the position of 1C schools. These occupy the second position, in both studies. In these schools, the mean values in First Language are around 59.

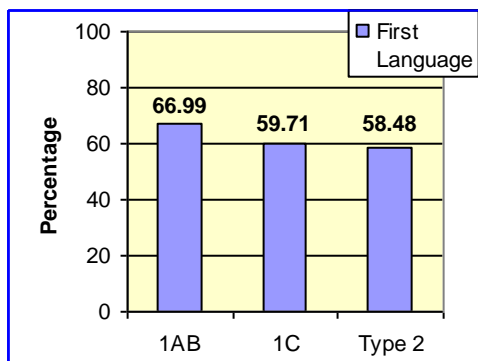


Figure 4.13 : All Island Differences in Mean Values, by School Type – First Language : 2005

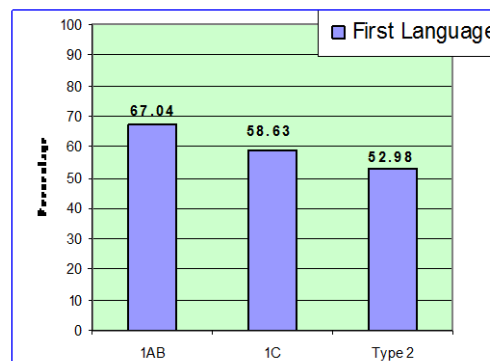


Figure 4.14: All Island Differences in Mean Values, by School Type - First Language : 2008

The third pattern is that in both studies, the achievement level of the Type 2 schools is the lowest. In addition, in year 2008, the mean value of Type 2 schools have gone down further, from 58.48 to 52.98 showing a downward trend in the achievement level. This has to be given due consideration, not only because Type 2 schools are at the lower end, but also the achievement levels of the students in these schools are deteriorating, whereas the achievement levels of the students in other school types are relatively stable.

In the subject Science and Technology, four patterns are evident. The first pattern is that in First Language 1AB schools are leading, in providing better opportunities and in showing the highest mean values. Their mean value in Science and

Technology has gone up from 61 to 64, in year 2008. The second pattern is the lowest level of the Type 2 schools, in both years. It has also to be noted that the average performance levels of the Type 2 schools have gone down, in year 2008. The pattern occurring in 1C schools, in student mean values, indicates that these schools are positioned in-between the other two school types; this is true of the subject Science and Technology as well. As has happened in the 1AB school type, the average performance level of 1C students in Science and Technology has also gone up. When taken as a whole the differences in mean values between the highest and the lowest, in year 2005 was 10.247. In 2008 this has come down to 15.311. These figures denote that though there are differences in providing equal opportunities by the three types of schools; there is also a trend to lower the differences in providing equal opportunities for learning Science and Technology, within the junior secondary cycle, during the last three years.

Table 4.9 - Differences in Mean, Standard Deviation and Standard Error of Mean Values by School Type - Science and Technology

School Type	Mean Value		Standard Error		Standard Deviation	
	2005	2008	2005	2008	2005	2008
1AB	61.284	64.173	0.100	0.3276	18.9	18.9
1C	53.159	54.101	0.063	0.3052	18.9	18.9
Type 2	51.037	48.862	0.046	0.3545	17.9	18.8

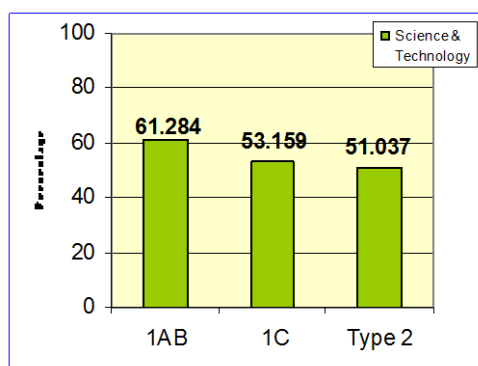


Figure 4.15 : All Island Differences in Mean Values by School Type- Science and Technology - 2005

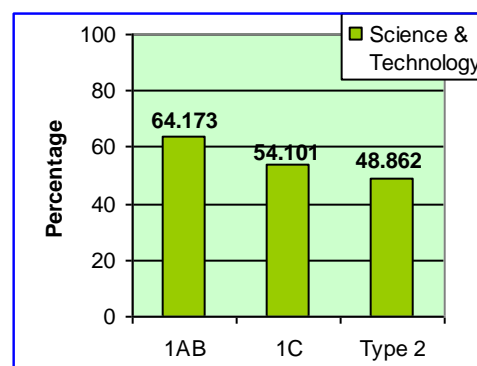


Figure 4.16 : All Island Differences in Mean Values by school Type- Science and Technology - 2008

The mean values in Mathematics are given in Table 4.10 and Figures 4.17 and 4.18. Similar patterns, as discussed, could be seen in Mathematics as well.

Table 4.10 - Differences in Mean, Standard Deviation and Standard Error of Mean Values by School Type - Mathematics

School Type	Mean Value		Standard Error		Standard Deviation	
	2005	2008	2005	2008	2005	2008
1AB	56.02	58.44	0.10	0.33	19.8	19.2
1C	45.25	47.83	0.06	0.28	16.9	17.7
Type 2	42.85	43.11	0.04	0.31	15.7	16.5

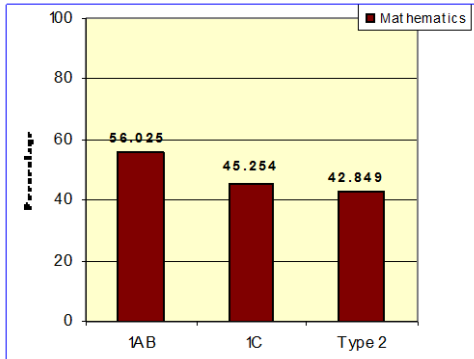


Figure 4.17: All Island Differences in Mean Values by School Type- Mathematics - 2005

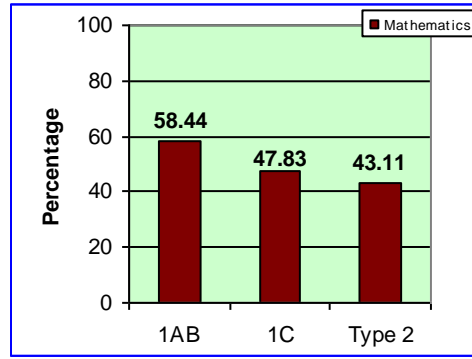


Figure 4.18 : All Island Differences in mean values by school Type- Mathematics - 2008

The first pattern is the highest mean value of 1AB schools, in both years. The second pattern is the lowest mean value of Type 2 schools, in both years. The third pattern is the position of 1C schools, in between the other two school types, during both years. Fourthly, in 1AB schools mean values have gone up, but not in the other two school types. This fact leads us to identify three patterns. One is the differences among the three school types in providing equal opportunities for studying Mathematics. The next is the downward trend evident in all three types of schools in providing equal opportunities in Mathematics. This is quite clear when figures of the mean values are studied. In 1AB schools, mean values have increased from 56 to 58, in 2008. In 1C schools too, mean values have increased from 45 to 48. In Type 2 schools, it was 42.8 in 2005 and 43.1 in 2008, without a significant change.

4.7 Summary

Equal opportunities in education refer to equality of access, equality of outcomes and equivalent experience. The comparison of provincial mean values in the three

subjects with the all island mean values indicate whether provinces have been capable of providing equal opportunities. In 2005 as well as in 2008, Western Province has been able to provide better education opportunities in all three subjects tested. North Western and North Central Provinces have been able to maintain a better position in both years, in First Language. Uva and Eastern Provinces are poor in First Language than the other provinces. In Science and Technology too Western Province takes the lead, in both years. Sabaragamuwa Province, obtaining a mean value higher than the all Island value has been able to maintain its position, in both studies. This is true of the North Western Province as well. Uva, Northern and Eastern Provinces were unable to provide good opportunities in Science and Technology. In Mathematics, Uva, Central, Southern, Northern and Eastern Provinces have mean values below the national average, in both years. It means that these provinces have not been able to provide equal opportunities in Mathematics, during the last few years. Sabaragamuwa Province has improved its position. When the differences between highest and lowest mean values in the provinces are considered, providing equal opportunities in all three subjects show an upward movement. In all three subjects, performance of female students has been higher than that of male students. Gender inequality in providing education in Sri Lanka is less evident. More opportunities for girls are available. In all three subjects, the differences between urban and rural are seen. Urban students enjoy more opportunities. However, in all three subjects, the differences between the two groups are lowering, indicating a better attempt at moving towards minimizing differences in the provision of equal opportunities. English medium schools have been able to provide better opportunities for their students, in all three subjects. Students in Tamil medium schools show lower average achievement levels. The position of Sinhala medium students lies in between those of English medium and Tamil medium students. Type 2 schools have been the group with the lowest opportunities. The best opportunities are provided by 1AB schools. 1C schools lie in between. This pattern is true of all three subjects, for both the years 2005 and 2008.

Key points

Providing Equal Opportunities in Education

Equal Opportunities in Education

- equality of access
- equality of outcomes
- equivalent experience

Provincial Status

- In 2005 as well as in 2008, the Western Province has been able to provide better educational opportunities in all three subjects.
- North Western and North Central Provinces have maintained a better position, in First Language.
- Uva and Eastern Provinces are poor in First Language.
- In Science and Technology, Western Province takes the lead, in both years.
- Sabaragamuwa and North Western Provinces have maintained a better position in both studies, in all three subjects.
- Opportunities for learning Science and Technology and mathematics in Uva, Northern and Eastern Provinces are poor.
- More opportunities for girls are available, in all three subjects.
- Urban students enjoy more opportunities than rural students.
- English medium schools have been able to provide better opportunities for their students, in all three subjects. Students in Tamil medium schools show lower average achievement levels.
- The position of the Sinhala medium students lie in between those of English medium and Tamil medium students.
- Type 2 schools provide the lowest opportunities.
- The best opportunities are provided by 1AB schools.

