

Gender equality in reading and mathematics achievement

Reflecting on EFA Goal 5

Research results arising from SACMEQ's second educational policy research project in Southern and Eastern Africa highlights a new look on whether countries are on the right track in their attempts to achieve the EFA gender equality goal.



GENDER equality in education has been a major concern in many countries. The Goal 5 of the Dakar Final Framework emphasized that the attainment of Education for All (EFA) by 2015 would require world's commitment in "eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality"¹.

According to UNESCO's EFA Global Monitoring Report 2003/2004², "gender equality" refers to the notion of boys and girls experiencing the same advantages or disadvantages in attending school, receiving teaching methods, curricula, and academic orientation, and producing equal learning achievement and subsequent life opportunities.

Since 1992, the IIEP has been working with 15 Ministries of Education that together form the Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ) in order to explore a variety of approaches for measuring and comparing the quality and equity of primary education systems. A total of 14 Ministries participated in the second phase of this important study as part of the research programme conducted by SACMEQ. The data collected during this survey covered over 40,000 pupils, about 5,300 teachers, and 2,300 primary schools in the sub-region. Are there

significant differences in the pupil participation, repetition rates, age, school treatment, family background, and achievement in reading and mathematics of boys and girls? The data from SACMEQ were used to address these issues.

The differences in average reading and mathematics achievement scores by gender at the Grade 6 level have been presented in *Figure 1*. The tests for all the countries in SACMEQ's second study (2000-2002) had a combined mean of 500 and a standard deviation of 100. The mean test score for each country has been shown on the left side of each graph. Girls scored significantly higher than boys in Seychelles (+65), Botswana (+27), South Africa (+27), and Mauritius (+26) in Reading. In Tanzania, boys scored significantly higher than girls (-16). In the other school systems, the differences were not significant. For Mathematics, only in Seychelles did girls score significantly higher than boys (+38). On the other hand, in Tanzania (-33), Kenya (-22), Mozambique (-18), Zanzibar (-14), and Malawi (-10), boys scored significantly higher than girls. In the other school systems, the differences were not significant.

In order to help understand these results, selected indicators of 'educational conditions' have been examined for each country. It should be noted that these indicators do not suggest any causal link on achievement. Other variables that are not reported here may explain the gender

differences. However, there are some important messages that emerge from these findings.

First, in terms of school conditions, in no country in this sub-region, were Grade 6 girls more disadvantaged than Grade 6 boys. Secondly, boys were more disadvantaged especially in socio-economic background, age, repetition, and home interests, but despite this, they achieved better in Mathematics.

In the SACMEQ I Study³ there were no gender differences in the reading achievement of Grade 6 pupils in the sub-region. Rather, the more important differences were the disparities between geographical locations and socio-economic levels. It has been concluded that the absence of gender differences was **not** due to the participation of elite girls because at the upper primary level the enrolment level was the same for both sexes at around 50 per cent.

From the SACMEQ II results, this conclusion remained valid for most of the countries studied. However, in Mozambique, where fewer girls were enrolled than boys, the enrolled girls could be considered as 'selected elites', and these were girls from higher socio-economic background than the boys. Nevertheless, while 'selected elite girls' were expected to do well in school, they repeated more than boys and had significantly lower scores in Mathematics and slightly lower scores in Reading. This calls for further investigation.

On the other hand, 'selected elite boys' were found in Tanzania, where significantly fewer boys were enrolled than girls at the Grade 6 level. There is some evidence from the forthcoming Tanzania SACMEQ Report that boys tend to stay away from school for better business opportunities. Moreover, Tanzania was the only country where boys performed significantly better than girls in both subjects, even though boys were much older than girls.

Particular concern for disadvantaged boys has been raised for the Seychelles, where girls had higher achievement than boys in both subjects. This was consistent with recent results in the Seychelles national examination in all subjects. In Seychelles, a practice called 'streaming' takes place where pupils are divided into groups based on their abilities. Although there were about equal numbers of girls and boys at the Grade 6 level, in the top stream it was the girls who were the majority, and in the

rest of the streams it was the boys who outnumbered the girls. It was argued in the Seychelles SACMEQ Report that streaming, which takes place at an early stage, is not solely based on ability but on other social criteria, which favour girls, and that an achievement gap between boys and girls would be created over time. However, the validity of this argument awaits further analyses.

In Lesotho, Namibia, Swaziland, Uganda and Zambia, there were no gender differences in the achievement of any subject. In addition, in Botswana, Mauritius, Seychelles, and South Africa, girls significantly outperformed boys at least in Reading if not both. In these countries, as far as the upper primary level is concerned, girls were equally talented, if not more. However, girls' participation in secondary and tertiary levels was lower than the male participation². It could be hypothesized that there might be a vast amount of female talent left capitalized if their participation in the

higher level is not comparable to that of boys. Ministries of Education in the Southern and Eastern Africa sub-regions still have a long way to go down path towards gender equality.

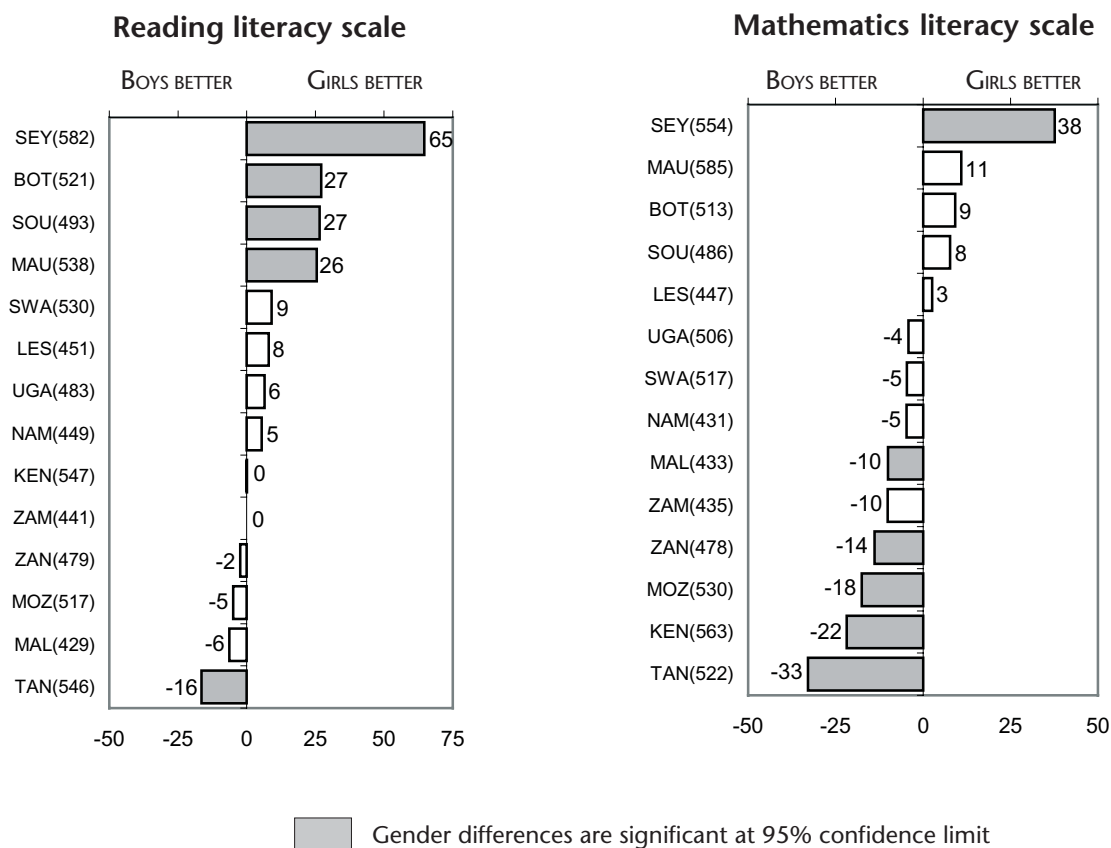
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¹ UNESCO. 2000. *The Dakar framework for action*. ED-2000/WS/27. Paris: UNESCO.

² UNESCO. 2003. *EFA Global Monitoring Report 2003/2004: Gender and education for all: the leap to equality*. Paris: UNESCO.

³ Saito, M. 1998a. "Gender vs. socio-economic status and school location differences in Grade 6 Reading Literacy in five African countries." In: *Studies in educational evaluation*, 24(3), pp. 249-261. Saito, M. 1998b. "The impact of gender, social background, and school location on reading levels in Southern Africa." In: *IIEP Newsletter*, Vol. XVI(4). Paris: UNESCO/IIEP. Saito, M., & Kuroda, K. 2000. "Investigation on gender differences in primary school pupils' reading literacy in seven African countries". In: *Journal of International Cooperation in Education*, 3(1), pp. 25-39.

Figure 1. Gender differences in reading and mathematics' achievement



Source: Ross, K., Saito, M., Dolata, S., Ikeda, M. (2004). SACMEQ Data archive. Paris: IIEP.