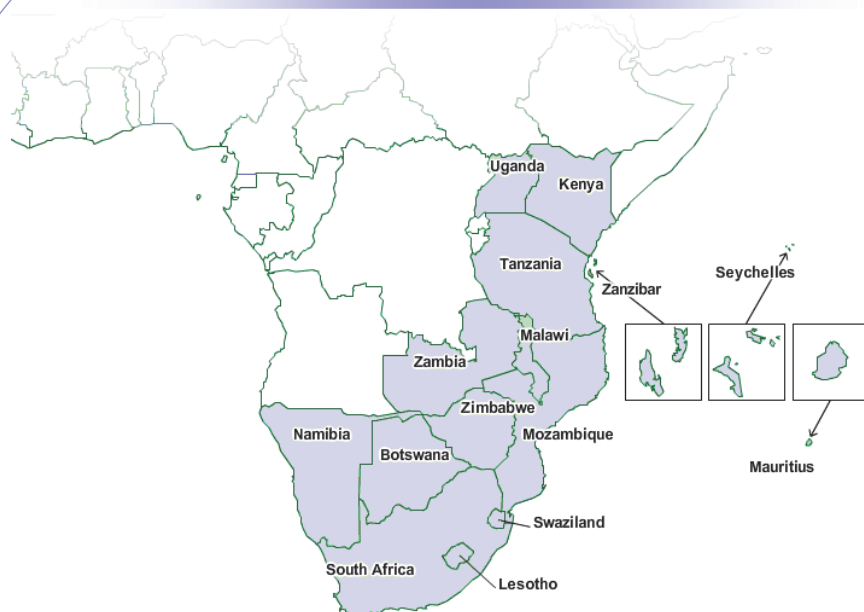


# Characteristics of Grade 6 Teachers

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## ABSTRACT

In the research programmes conducted by the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) teachers were considered as the most important human resource inputs to schooling. This paper highlights the characteristics of Grade 6 teachers in terms of: (a) their personal attributes (such as age, gender, general education, professional training, and teaching experience), and (b) their achievement scores in a standardized reading test that was administered during SACMEQ II (2000) and SACMEQ III (2007) across the 15 SACMEQ school systems.

These teacher characteristics provide a succinct overview of the quality of the teaching force across the SACMEQ education systems in 2007. The personal characteristics of Grade 6 teachers that have been discussed in this paper are complemented with reading achievement scores in order to provide an indication of the subject matter knowledge of Grade 6 reading teachers, and to show the trend in achievement levels between 2000 and 2007.

The results show that there were variations in the characteristics of Grade 6 teachers across SACMEQ school systems in terms of age, gender, general education, professional training, and teaching experience. The results further show that for SACMEQ as a whole, there was an increase in the average achievement scores of teachers, between 2000 and 2007. However, there were large variations in teacher achievement scores across SACMEQ school systems. The challenge for most SACMEQ school systems is to achieve gender equality in the composition of teaching staff while ensuring a balance between academic education, and appropriate pedagogical training for all teachers.

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## Introduction

Teachers are an essential component of all education systems. In the research programme conducted by 15 education systems (Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe) that constitute the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), teachers were considered to represent the most important contribution towards human resource inputs to schooling. Data relating to various characteristics of Grade 6 teachers and their viewpoints on teaching, classroom resources, professional support and job satisfaction, in addition to the characteristics of their pupils were collected at three time intervals: SACMEQ I Project (1995-1998), SACMEQ II Project (2000-2004), and SACMEQ III Project (2007-2010). This paper highlights the characteristics of Grade 6 teachers only in terms of: (i) their personal attributes (such as age and gender), (ii) their general education, and (iii) their professional training and teaching experience in 2007. This is followed by a presentation of reading achievement scores of these teachers in 2000 and 2007, across the 15 SACMEQ education systems.

## Characteristics of Grade 6 Teachers

In interpreting the results of the characteristics of Grade 6 teachers across the 15 SACMEQ school systems that have been reported in **Table 1**, it has to be taken into account that the percentages and means that have been presented in the table relate to pupils. That is, for the SACMEQ Projects, pupils were the unit of analysis. This implies that where a percentage for a variable that describes teachers has been presented, this percentage should be interpreted as the stated percentage of pupils who were in schools with teachers having the particular characteristic.

The results that have been presented in **Table 1**: (i) personal attributes of teachers, (ii) teacher academic education and professional training, and (iii) teaching experience are based on data that were collected for the SACMEQ III Project in 2007.

**Table 1** Characteristic of Grade 6 reading teachers across SACMEQ school systems in 2007

	Personal Attributes		Education and Training			Teaching Experience (Years) <sup>`</sup>
	Age (Years)	Female (%)	Primary Only %	Senior Sec-Tertiary (%)	Teacher Training (Years)	
Botswana	37.5	65.9	2.9	72.3	2.9	13.1
Kenya	37.2	46.0	1.1	97.8	2.0	13.3
Lesotho	39.4	72.2	33.0	62.8	2.8	12.9
Malawi	36.3	26.0	3.6	63.7	1.8	11.4
Mauritius	43.8	39.8	0.7	98.5	2.3	20.7
Mozambique	33.3	38.5	6.3	73.9	1.9	10.0
Namibia	37.1	62.4	10.5	83.9	3.2	11.9
Seychelles	36.5	96.5	0.0	100.0	3.3	15.1
South Africa	42.3	68.2	24.8	73.5	3.3	16.5
Swaziland	35.5	69.6	0.7	99.3	2.9	10.7
Tanzania	36.3	60.4	7.0	91.2	2.0	12.5
Uganda	33.1	27.0	9.8	89.3	2.6	9.1
Zambia	31.8	52.9	21.8	76.2	2.0	6.1
Zanzibar	32.8	73.4	3.4	88.3	1.9	8.9
Zimbabwe	38.1	29.5	3.9	94.8	3.1	11.5
<b>SACMEQ</b>	<b>36.7</b>	<b>55.3</b>	<b>8.6</b>	<b>84.4</b>	<b>2.5</b>	<b>12.2</b>

## Personal Attributes of Teachers

- (a) Age: It can be seen from **Table 1** that the average age of Grade 6 reading teachers for SACMEQ as a whole was around 37 years. There were variations in the age of teachers across the SACMEQ school systems. In Mauritius the average age of teachers was around 44 years. In Zambia, the average age of teachers was around 32 years. The Grade 6 reading teachers in Zambia were more than ten years younger compared to the teachers in Mauritius.
- (b) Gender: It can be seen from **Table 1** that for SACMEQ as a whole 55 percent of the pupils were taught by female teachers. This is encouraging because results from the SACMEQ studies (and other studies) have shown that at the primary school level both boys and girls tend to perform better when they are taught by a female teacher. However there were great variations in the percentages of female and male teachers across the SACMEQ school

systems. For example, in the Seychelles, around 97 percent of the Grade 6 pupils were in schools where they were taught by female teachers. In Malawi only 26 percent of the Grade 6 pupils were in schools where they were taught by female teachers. The situation was similar in Uganda (27.0%), and Zimbabwe (29.5%), where the percentages of pupils who were taught by female teachers were low. Other countries where the percentages of pupils who were taught by female teachers were below 50 percent are Kenya, Mauritius, and Mozambique. This means that in these countries more than half of the pupils were taught by male teachers. In other words, around 70 percent of the pupils in Malawi, Uganda and Zimbabwe were in schools where they were taught by male teachers.

## **Teacher Education and Training**

The extent to which all teachers had a good level of general education, and professional (teacher) training were important characteristics that were measured for two reasons. The first reason was that different SACMEQ education systems had different minimum requirements for these qualifications and it was important to know to what extent these benchmarks had been met. The second reason was to relate the different amounts of general or academic education and teacher training to the subject matter knowledge of teachers themselves, and to the achievement levels of their pupils. This is because there are divergent views about how much general education, and how much professional teacher training is needed for teachers. The assumption that had to be examined was that the higher the level of general education and relevant pedagogical training that teachers received, the more subject matter knowledge they have, which results in a higher level of what their pupils will be able to achieve. Teachers were therefore asked to indicate the highest level of academic education that they had attained. The options were: (i) primary education, (ii) junior secondary, (iii) senior secondary, (iv) equivalent of A-levels, and (v) tertiary or university education.

- (a) General Education: For the purposes of this paper the teachers who had attained senior secondary education, equivalent of A-levels education, and tertiary or university education were grouped together, because senior secondary education was considered to be the

minimum desirable level of academic education for teaching at the primary school level in most SACMEQ education systems. (Note that due to social and historical reasons, there were a number of teachers in several SACMEQ school systems who had only reached junior secondary or primary education. These two levels of education were not considered to be desirable). Teachers who had attained senior secondary education were expected to have higher subject matter knowledge than the primary school pupils they teach. The results have been presented in **Table 1**.

It can be seen from **Table 1** that for SACMEQ as a whole, around 9 percent Grade 6 pupils were taught by reading teachers whose highest level of general education was primary school. In Lesotho, 33 percent of the Grade 6 pupils were taught by reading teachers whose highest level of general education was primary school. In Zambia and South Africa around 22 to 25 percent of the pupils were in schools where they were taught by teachers who had primary school education only. Primary education was generally considered to be inadequate level of academic education for teachers because teachers are expected to be well grounded in the subject matter of the subjects that they teach in order to teach competently and effectively. It has been argued that teachers who have very low academic education may not have sufficient knowledge of the subject matter of the teaching subjects. If the teacher's knowledge of the subject matter is low, the teacher could experience difficulties in teaching pupils effectively. Ineffective teaching may lead to low achievement levels for pupils.

It can further be seen from **Table 1** that all (100%) Grade 6 teachers in the Seychelles had attained senior secondary education or above. For seven education systems (Zanzibar, Uganda, Tanzania (Mainland), Zimbabwe, Kenya, Mauritius, and Swaziland) the percentages of teachers who had attained senior secondary education and/or above ranged from around 88 percent to around 99 percent. For the rest of the SACMEQ school systems the percentages of pupils who were in schools where they were taught by teachers who had attained senior secondary education or higher ranged between 63 and 84 percent.

(b) **Teacher Training:** Professional teacher training is a critical attribute for teachers. Teachers are required to have relevant professional training in order to be certified to teach. Pre-service teacher training equips teachers with in-depth understanding of: (i) the school *subject/s* that they will be required to teach, (ii) the *level* at which they will be required to teach, and (iii) the pedagogical skills and *methodologies* to be employed in teaching the subject. Among the SACMEQ education systems, there were different qualifications for teachers. Some teachers were certified to teach after obtaining teaching certificates, or teaching diplomas from teacher training colleges. Other teachers were certified after obtaining university diplomas or degrees. In different SACMEQ countries these qualifications take between one to four years to be completed. The results for the mean number of years that teachers had completed pre-service training for SACMEQ III have been presented in **Table 1**.

It can be seen from **Table 1** that in Seychelles and South Africa the mean number of years that reading teachers had completed for their professional training was 3.3 years. In four countries (Botswana, Lesotho, Namibia, and Swaziland) the mean number of years for teacher training was around 3 years. Malawi had the lowest mean of around 1.8 years. For SACMEQ as a whole, the mean was 2.5 years. The number of years for teacher training is associated with the content of the different teacher training programmes across SACMEQ education systems. Some teacher education programmes seem to put more emphasis on teacher subject matter knowledge while other programmes seem to put more emphasis on pedagogical training.

## Teaching Experience

It is generally acknowledged that after the initial pre-service training, teachers sharpen and improve their teaching skills through the actual teaching and learning process over time. The classroom interaction between teachers and pupils provides teachers with the relevant experience which adds value to, or enriches their teaching experience. The mean numbers of years of teaching experience for SACMEQ III have been presented in **Table 1**.

It can be seen from Table 1 that for SACMEQ as a whole, the mean number of years of teaching experience for teachers was around 12 years. The Grade 6 teachers in Mauritius had around 21 years of teaching experience, because they were on average older than teachers from the other school systems. Mauritian teachers were followed by teachers from South Africa (16.5 years) and the Seychelles (15.1 years). The average years of teaching experience for Zambian teachers was only 6 years. These teachers were relatively young, and still in the early years of their teaching careers.

## **Achievement Scores**

The average achievement scores of Grade 6 teachers across the SACMEQ education systems have been presented in **Table 2** for SACMEQ II (2000) and SACMEQ III (2007). These results were derived from standardized reading tests that were developed through cross national analysis of curricula of the 15 participating school systems. These tests included “overlapping” test items which made it possible to employ Modern Item Response Theory methods to undertake item analyses and test scoring procedures. The tests were transformed so that pupils and their teachers from both studies were placed on a single scale with a mean score of 500 and a standard deviation of 100. The pupil achievement scores have been reported in a separate article (Makuwa, 2010).

The overall mean scores for teachers that have been reported in **Table 2** for both SACMEQ II and SACMEQ III were higher than the pupil mean score of 500 for all SACMEQ school systems. This clearly shows that on average, teachers demonstrated higher subject matter knowledge than pupils for both SACMEQ II and SACMEQ III in all school systems. However, the results also show that there were large variations in achievement between the different school systems in terms of levels and trends. For example, in terms of levels, it can be seen from **Table 2** that for SACMEQ III the mean score for teachers in the Seychelles was 831, compared to the mean score of 673 for Zanzibar – a difference of 158 points. The rest of the countries had mean scores that ranged from around 720 to 795. These are big differences.

**Table 2** Mean reading scores of Grade 6 teachers in SACMEQ II and SACMEQ III

	SACMEQ II (2000)	SACMEQ III (2007)	Trend (2000 – 2007)	
Botswana	758	769	▲	+11
Kenya	794	792	►	-2
Lesotho	722	721	►	-1
Malawi	715	720	►	+5
Mauritius	xx	xx	xx	xx
Mozambique	716	718	►	+2
Namibia	728	739	▲	+11
Seychelles	807	831	▲	+24
South Africa	xx	758	xx	xx
Swaziland	749	768	▲	+19
Tanzania	707	722	▲	+15
Uganda	696	727	▲	+31
Zambia	760	758	►	-2
Zanzibar	654	673	▲	+19
Zimbabwe	xx	795	xx	xx
<b>SACMEQ</b>	<b>734</b>	<b>750</b>	<b>▲</b>	<b>+16</b>

In order to show trends in achievement, colour-coded arrowheads were used to show changes in average scores between 2000 and 2007. A green arrowhead denoted an increase of ten points or more, and a grey arrowhead denoted change of less than 10 points above or below the mean scores in 2000. It can be seen from **Table 2** that for SACMEQ as a whole, there was an increase in the mean scores of teachers, from 734 points in 2000 to 750 points in 2007. Seven education systems (Botswana, Namibia, Seychelles, Swaziland, Tanzania (Mainland), Uganda, and Zanzibar), registered significant increases in mean scores between 2000 and 2007, as indicated by the green arrowheads. The increases ranged from around 10 points to around 30 points. This is a clear indication that there was an improvement in the overall performance of teachers in the seven education systems. For the rest of the education systems, the mean scores remained more or less the same with negligible decline or increases of less than 10 points, as indicated by the grey arrowheads. Teachers in Mauritius did not participate in the reading test at all, while teachers in South Africa and Zimbabwe did not participate in the SACMEQ II Project during 2000 and participated only in the SACMEQ III Project during 2007.

## **Conclusion and Policy Implications**

In this paper, the age, gender, general education, professional training, teaching experience, and achievement scores of Grade 6 reading teachers have been examined. These teacher characteristics were considered to be essential aspects of SACMEQ education systems. The results show that there were differences among SACMEQ education systems in all the teacher characteristics that have been examined in this paper:

- Generally, the teaching force in many SACMEQ education systems was relatively young given that the retirement age is around 55 to 60 years in most countries. There was ample time for any new policy interventions involving these teachers to bear fruit before the teachers reach retirement.
- Although female teachers constituted slightly more than half (55%) of the teaching force for SACMEQ as whole, the percentages of female teachers in some education systems such as Malawi, Mozambique, Uganda, and Zimbabwe were very low (below 40%). The four education systems should develop policies that will promote the recruitment and deployment of more female teachers in order to attain gender parity in the composition of teaching staff.
- The employment of more female teachers should be encouraged because there is evidence that female teachers have a greater impact on pupil achievement at the primary school level. Female teachers will also provide role models for pupils in education systems that are dominated by male teachers and school principals. Domination of male teachers in the education system (especially in management positions) “could send a wrong signal to pupils (both boys and girls) that female teachers are not capable” of being teachers (Hungu, 2010).
- The quality of teachers in terms of their level of general education and professional training varies across SACMEQ education systems due to different historical contexts, and different teacher education policies. Nevertheless, it is advisable for all SACMEQ countries to ensure that all teachers have desirable (higher) levels of both general education and relevant pedagogical training so that they can be more effective in their teaching. Education authorities in Lesotho, South Africa, and Zambia may wish to

investigate the effectiveness of teachers whose highest level of academic education is primary education.

- The achievement results of reading teachers that have been discussed in this paper show large variation among SACMEQ education systems. There are even greater variations in pupil achievement scores across SACMEQ school systems (Makuwa, 2010). Further analyses should be carried out in order to establish the relationship between the achievement level of teachers and the achievement level of pupils across the SACMEQ school systems. The large variation in teacher mean scores also implies that SACMEQ education systems should select student teachers from: (a) students who have attained higher general education and (b) students who have demonstrated good subject matter knowledge through higher grades obtained in the intended teaching subjects. Finally, when designing teacher training programmes, relevant authorities in SACMEQ education systems should ensure that there is a balance between subject matter knowledge of teachers and pedagogical training – the art of imparting that knowledge.

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