

Grade repetition and its effect on performance in SACMEQ countries

by

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Abstract

Numerous educational ministries around the world have implemented a policy of grade repetition in order to control the quality of their pupils in their education systems. Currently, there is a high instance of grade repetition in the SACMEQ countries. However, little is known of repeater background and their circumstances, and whether the practice of grade repetition is actually effective in improving education quality. This article has two objectives. The first is to describe the characteristics of pupils who had undergone grade repetition in participating SACMEQ countries as well as characteristics of schools which repeating pupils attended. Statistics and analysis is based on the SACMEQ II data set of October 2004. The implications of the so-called “the frog effect” - in which the classroom teacher has sole discretion for pupil promotion - has been also raised and discussed. The second objective of the paper is to examine the effect of pupil grade repetition on their achievement. A multi-level regression analysis has been conducted and the results have shown that repeaters did not achieve as high as non-repeaters in any of the SACMEQ countries, but the magnitude of the effect of grade repetition on achievement varied across countries. In some countries, the effect of grade repetition was inconsistent across schools, even each country.

Introduction

Grade repetition is a practice of having a pupil repeating the same school grade. According to the *International Educational Encyclopedia*, it is defined as a pupil “held in the same grade in school for an extra year rather than being promoted to the next grade with their age peers” (*International Educational Encyclopedia*, 1994). Countries such as Japan and a number in the Scandinavian region have an education policy of automatic promotion at the primary level regardless of achievement. Subsequently, in these countries there are no instances of grade repetition. In those countries with a policy of grade repetition, the number of pupils varies annually. Statistics have shown that repetition rates tend to be highest in developing countries, in particular in sub-Saharan Africa (UNESCO, 2004).

Currently, a high instance of grade repetition exists in Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) countries. However, little is known about the background and circumstances of these pupils. One of the two main objectives of this article is to determine the widespread practice of grade repetition in these SACMEQ countries, determining who is most likely to repeat and the circumstances for their repetition. The implications of the

so-called “the frog effect” - in which the classroom teacher has sole discretion for pupil promotion and repetition - will also be raised and discussed.

Many educational ministries have a policy of grade repetition in order to control the quality of education in the jurisdiction under their control. Pupils whose academic performance is deemed insufficient for promotion to the next grade are either encouraged or required to repeat the same grade in hope that an additional year at the same level will improve results, leading to improved academic standing and promotion. Some studies (e.g. Gomes-Neto and Hanushek, 1994) have confirmed that positive results can be obtained from pupil grade repetition. However, other studies have also demonstrated that grade repetition has a negative or negligible impact on pupil achievement, adversely affecting their general attitude towards school, their learning, and their self-esteem and confidence (e.g. Holmes and Matthews, 1984). It is therefore crucial to understand the effectiveness and implications of grade repetition in SACMEQ countries given such countries are generally confronted with a scarcity of educational and financial resources. Requiring or encouraging pupils repeat grades places subsequent burdens on educational and social resources.

A second objective of this article concerns whether a policy of grade repetition in the SACMEQ countries will effectively benefit pupils in improving achievement. The effect of grade repetition on achievement needs to be carefully reconsidered especially in countries where the “frog pond effect” can be observed. Analysis of statistics aggregated at the national level will be shown to obscure phenomena occurring at the individual school level. Subsequently, a multi-level analytical approach is adopted in considering data for this article. The SACMEQ II data files in the SACMEQ archive published in October 2004 (Ross et al., 2004) has been used.

Method

Data

In 1995, a consortium of national education ministries, aided by financial support from several governments, created the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ). The consortium consists of 15 countries including Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, the Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zanzibar, and Zimbabwe. The International Institute for Educational Planning (IIEP), an agency of UNESCO, joined the consortium, serving as a research and coordinating body. The purpose of SACMEQ is to: 1) improve the capacity of participating ministries of education to monitor and evaluate the quality of their systems; and 2) provide information allowing senior policy-makers to formulate and implement decisions and programs related to improving the quality of their national education. SACMEQ undertakes periodic data collection in its member countries, while simultaneously providing training opportunities for educational researchers and generating indicators of the quality of international education. The second SACMEQ study was conducted in 2000. In this study all SACMEQ member countries participated except for Zimbabwe. This article employs the data archive made available in October, 2004 (Ross et al., October 2004).

The target group for SACMEQ II was Grade 6 pupils enrolled in mainstream government and non-government schools. SACMEQ selected this grade level based on the following criteria: a) participation rates would be relatively high and non-selective (in some countries many pupils leave school between the primary and secondary levels); b) testing at lower grade levels was problematic given that there was a mixture of languages in classrooms in some countries through to the Grade 3 level.

National sampling frames were constructed using data from the Planning Division of the each Ministry of Education. Schools were then sampled with probability proportional to size (PPS). The numbers of sampled schools within countries was determined based on cluster sampling procedures and statistical power considerations. Although school sample sizes varied among countries, the range in most SACMEQ II countries remained between 140 and 185 schools. In Namibia, strong clustering required a larger sample: 270 schools. As the population of the Seychelles was small, the entire population of 24 schools was included. Within each sampled school, fixed-sized clusters of 20 Grade 6 pupils were randomly drawn from across grade 6 classes.

Response rates were high for both pupils and schools, ranging between 91 and 100 percent for schools and 77 and 96 percent for pupils (Table 2.7a in Ross et al., 2004). Total sample sizes for the entire SACMEQ II study included 41,686 pupils in 2,305 schools, with overall response rates being 97 percent of pupils and 98 percent of schools. These impressive response rates were achieved without replacing either schools or pupils. A complete description of the SACMEQ design and procedures has been presented in Ross et al. (2004). In Table 1 the SACMEQ II school and pupil sample sizes in each country have been presented.

Table 1: Sample sizes in SACMEQ II countries

Country	N. schools	N. Pupils	Country	N. schools	N. Pupils
Botswana	170	3322	Seychelles	24	1484
Kenya	185	3299	South Africa	169	3163
Lesotho	177	3155	Swaziland	168	3139
Malawi	140	2333	Tanzania	181	2854
Mauritius	153	2945	Uganda	163	2642
Mozambique	176	3177	Zambia	173	2611
Namibia	270	5048	Zanzibar	145	2514

Achievement Measures

Pupils as well as their teachers were assessed in reading and mathematics. An analysis of the major textbooks and curricula was undertaken and two test blueprints constructed. Test items using multiple-choice format were written with some being taken from other studies. The trialling of items was conducted for the first and second SACMEQ studies. Final tests were constructed such that continuous and normally distributed measures of reading literacy and mathematics achievement could be ensured. No rotated tests were used so that each pupil attempted all items. Each pupil was tested in the eighth month of their Grade 6 .year. Test scores, equated with Item Response Theory (IRT) methods, were standardized across SACMEQ countries to a mean [M] 500 and a standard deviation [SD] 100. Pupils were tested in the language of instruction. In 11 countries, testing was conducted in English; in Mozambique pupils were tested in Portuguese; in Tanzania and Zanzibar tests were given in Kiswahili.

The tests administered to the teachers had items in common with the pupil tests to allow equating both pupils and teachers on the same scale. For SACMEQ II, teachers in Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, the Seychelles, Swaziland, Tanzania, Uganda, Zambia and Zanzibar were tested.

Results

The Pupil Questionnaire contained two questions directly concerning grade repetition:

16.	How many times have you repeated a grade since you started school? (Please tick only one box.)
<input type="checkbox"/>	(1) I have <u>never</u> repeated.
<input type="checkbox"/>	(2) I have repeated once.
<input type="checkbox"/>	(3) I have repeated twice.
<input type="checkbox"/>	(4) I have repeated three or more times.
17.	Are you repeating Grade 6 this year? (Please tick only one box.)
<input type="checkbox"/>	(1) No, I am in Grade 6 for the first time.
<input type="checkbox"/>	(2) Yes, I am repeating Grade 6.

It was the data from these two questions that were used in this article to determine the extent of grade repetition.

How widespread is the practice of grade repetition in SACMEQ countries?

The percentage of Grade 6 pupils in SACMEQ II who reported that they had repeated a grade since they started school have been presented in Figure 1. The response categories of “(3) I have repeated twice” and “(4) I have repeated three or more times” were merged into one category. The green bar represents the percentage of non-repeaters. It can be seen that in the Seychelles 90 percent of pupils had never repeated whereas in Mozambique slightly over 20 percent of pupils never repeated. In the Seychelles only about four percent had repeated twice or more times. Tanzania and Mauritius had a 19 to 23 percent repetition. In some countries, however, there were more than 60 percent of pupils repeating once or more (Kenya, Lesotho, Malawi, and Mozambique). Mozambique had a 36 percent rate of pupil who had repeated once and 42 percent who had repeated twice or more.

Insert Figure 1: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and the Grade 6 pupil’s average age.

By adding the information of pupils' responses to the question regarding the repetition of Grade 6 (see Question 17 in the Pupil Questionnaire above), it was determined the grade at which pupils had repeated. In Figure 2, the percentage of pupils who had never repeated any grades, repeated once and the repeated grade was Grade 6, repeated a grade once but not repeated Grade 6, repeated a grade/grades twice or more including Grade 6, and repeated a grade/grades except Grade 6 twice or more have been shown. It can be seen that in most countries, pupils have repeated not only Grade 6 but also Grade 1 to 5. However, in Mauritius, almost all pupils who had repeated only once did so in Grade 6. In Mauritius, pupils tended to repeat Grade 6 in order to achieve higher marks before moving to secondary schools.

Insert Figure 2: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and repeated Grade 6.

Profiling repeaters and repeater location?

It is generally believed that the pupils from disadvantages families are more exposed to risk of repeating grades. As described in a number of studies concerning the education of girls in developing countries (Schwille et al., 1991, Eisemon, 1997, Saito, 2004) girls tend to achieve better test results than boys. It can be assumed that girls would have fewer instances of grade repetition. In remotely located schools with fewer resources, it is expected that there would be higher instances of grade repetition. Also, pupils taught by teachers with higher subject matter knowledge would produce fewer instances of grade repetition.

This section examines the following pupil characteristics: a) age; b) gender; and c) socio-economic background. The following school characteristics have also been considered: d) location; e) school type; and f) school resources. Finally, g) teacher subject matter knowledge was examined to elucidate whether they related to pupil grade repetition.

(a) Pupil age

In Figure 3, the average age of pupils who had never repeated, repeated once and repeated twice or more have been shown by country. In Botswana, Kenya, Lesotho, Mauritius, Namibia, and Swaziland, pupils who had repeated once tended to be about one year older than those who have never repeated and about one year younger than those who have repeated twice or more. However, in Tanzania, Uganda, Zambia, and Zanzibar, there were no significant age differences among pupils who had repeated once and those repeated once. In the Seychelles, Tanzania, and Uganda, there were no significant age differences among pupils who had never repeated and those repeated twice or more.

Grade repetition and beginning school a earlier or later in age are the main two factors of variability of ages within a grade. These two factors would exist together in countries such as the Seychelles, Tanzania, and Uganda, so that there were no significant age differences among non-repeaters and repeaters. In Figure 1, age has been assigned the right hand axis and plotted by the horizontal graph line. If all children had entered school at six years of age and if they had all progressed without grade repetition they would have been aged between 11 and 12 years of age

in Grade 6. This result was found in Mauritius and the Seychelles. The average age of pupils in Tanzania and Uganda, however, was higher than 14 years of age. Therefore, it could be said that in the Seychelles repeaters tended to be the pupils who started a school at an earlier age than non-repeaters. On the contrary, in Tanzania and Uganda, non-repeaters tended to be the pupils who started a school at the higher age than repeaters. Therefore, even after repeating grade once or more, repeaters tended to be the same age as non-repeaters.

Insert Figure 3: The average age of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.

(b) Pupil gender

As seen in Figure 4, the instances of girls not repeating grades were significantly higher than those of boys in Botswana, Lesotho, Mauritius, Namibia, South Africa, Swaziland, and Zanzibar. The differences in the percentages between boys never repeated and girls never repeated were 3 to 17 percent in these countries. The largest difference can be observed in Botswana, where 77 percent of girls had never repeated a grade, while it was only 60 per cent for boys. There were no significant differences in grade repetition between boys and girls in Kenya, Malawi, the Seychelles, Tanzania, Uganda, and Zambia. Mozambique is the sole country that showed that boys were statistically significantly less likely to repeat grades than girls. In general, however, those girls who could advance through to Grade 6 in SACMEQ countries did not repeat as often as boys in half of the SACMEQ countries.

Insert Figure 4: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated once, and twice or more since Grade 1 by pupils' gender.

(c) Pupil socio-economic background

A special variable was derived as a measure of pupil socio-economic status (SES). This consisted of adding together scales of 'possessions in the home', 'quality of homes', and 'parental education'. The final scale had a range of 0 to 15 (Dolata, in press). In Figure 5, the socio-economic level for the pupils who had never repeated, repeated once, and twice or more have been given. It can be seen that pupils who had repeated grades came from more disadvantaged socio-economic backgrounds than those who had never repeated in all SACMEQ countries except in Mozambique, Tanzania, and Zanzibar. In Tanzania and Zanzibar, there were no significant differences in the level of socio-economic backgrounds among pupils who had repeated never, once, and twice or more. In Mozambique, pupils who had repeated twice or more tended to have more advantaged socio-economic backgrounds than those who had never repeated.

Insert Figure 5: Socio-economic backgrounds of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.

(d) *School location*

In the school questionnaire the following question was asked. The first two categories were merged to form an isolated/rural category and the last two to form a town/city (urban) category.

Which of the following best describes the location of your school? (Please tick only one box.)	
<input type="checkbox"/> (1)	Isolated
<input type="checkbox"/> (2)	Rural
<input type="checkbox"/> (3)	In or near a small town
<input type="checkbox"/> (4)	In or near a large town or city

As seen in Figure 6, pupils in rural or isolated areas were more likely to repeat their grade than pupils in towns or cities in Kenya, Namibia, South Africa, Swaziland, Zambia, and Zanzibar. The differences in percentages of pupils who never repeated between rural/isolated and town/city ranged from 6 to 20 percent in these countries. The largest difference was observed in South Africa, where two thirds of pupils in towns or cities had never repeated, whereas only less than half of pupils in rural or isolated areas had never repeated a grade. In Botswana, Lesotho, Mauritius, Malawi, the Seychelles, Tanzania, and Uganda, there were no significant differences in grade repetition between pupils in the two categories. Again, in Mozambique, the opposite relationship was observed. More pupils in town or city had repeated grades than pupils in rural or isolated areas.

Insert Figure 6: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated once, and twice or more since Grade 1 by school location.

(e) *School type*

School heads reported whether their school was private or government administered. Identifying this difference concerned the nature of the governance of the school and not with tuition or fees. In Tanzania there were no private schools. However, in Lesotho more than 60 percent of all pupils attended private schools. In Mauritius this figure was at around 20 percent. In all other countries, pupils attending private school numbered only between two to five percent of all pupils.

In Figure 7, the frequency of repeating has been plotted against government and private schools in each country. Significant differences in the percentages of pupil grade repetition between government and private schools were observed only in two countries. One reason may be due to the fact that in many countries the standard error for the percentages for pupils in private schools was relatively large given the small number of schools in this category. In Mozambique, fewer

pupils who attended government schools repeated than those attending private schools, while fewer private school pupils had repeated than those in government schools in Namibia. The difference was only four percent favouring the government schools in Mozambique, whereas the differences were 20 per cent favouring the private schools in Namibia.

Insert Figure 7: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 by school type.

(f) *School resources*

The School Questionnaire included questions concerning the state of resources in schools. These school resources included such things as a library, hall, staff room, school head's office, store room, cafeteria, sports area/playground, garden, piped water/well or bore-hole, electricity, telephone, first-aid kit, fax machine, typewriter, duplicator, radio, tape recorder, overhead projector, television set, video-cassette recorder, photocopier, and a computer. These were summed and the average number for schools within countries varied, ranging from 4.2 to nearly 17 items or facilities.

As seen in Figure 8, in most countries, there was no difference between average school resources for pupils who had never repeated and those for repeated once in most countries except in Kenya, Namibia, South Africa, and Zambia. In these countries, pupils who had never repeated tended to attend schools with more school resources than pupils who had repeated once. The greatest difference was observed in South Africa. On the contrary, in Mozambique, pupils who had repeated twice or more tended to attend schools with more school resources than pupils who had never repeated.

Insert Figure 8: Resources of schools which pupils in Grade 6 in SACMEQ countries who have repeated once, twice or more since Grade 1 and the Grade 6 attended by country.

(g) *Teacher subject matter knowledge*

Tests for teachers in reading and mathematics were conducted in all SACMEQ countries except in Mauritius and South Africa. These tests of reading and mathematics for teachers consisted of items believed to stretch teacher ability level, but several items from the pupil tests were also included. With such a test design, pupil and teacher test scores could be brought onto one scale. Average teacher scores by country ranged from nearly 700 to just under 1000.

In Figure 9 and Figure 10, it can be seen that there was no relationship between teacher subject knowledge and pupil grade repetition in most countries. Teachers of pupils who repeated scored as high as those of pupils who never repeated. However, in Namibia, teachers of pupils who had never repeated tended to score higher in reading than those with pupils who had repeated once or more. In the Seychelles, teachers of pupils who had never repeated scored 26 score points higher in mathematics than those with pupils who had repeated once or more. Conversely, in Malawi, teachers of pupils who had never repeated scored about 20 score points lower in reading than those with pupils who had repeated twice or more.

Insert Figure 9: Reading achievement scores of teachers under whom pupils in Grade 6 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

Insert Figure 10: Mathematics achievement scores of teachers under whom pupils in Grade 6 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

In summary, in most countries repeaters are older boys coming from disadvantaged socio-economic backgrounds. Mozambique is an exception where girls tended to repeat more than boys and non-repeaters came from a slightly lower socio-economic background than pupils who repeated twice or more. In Table 2, the differences of pupil characteristic who had repeated never, once, and twice or more have been presented. The differences with statistically significant at the 95 percent level have been highlighted in grey.

Table 2: Summary of pupil characteristics by grade repetition.

	Differences in pupils' age in month			Differences in percentage never repeated	Differences in pupils' SES		
	"Never" – "Once"	"Once" – "Twice+"	"Never" – "Twice+"	Girl-Boy	"Never" – "Once"	"Once" – "Twice+"	"Never" – "Twice+"
	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.
Botswana	-10	-9	-19	17	0.6	0.8	1.4
Kenya	-10	-8	-19	2	0.9	0.4	1.3
Lesotho	-8	-10	-18	10	0.2	0.1	0.4
Malawi	-10	-4	-14	-3	0.8	0.3	1.1
Mauritius	-12	-10	-22	3	0.6	1.1	1.7
Mozambique	-4	-7	-12	-7	-0.3	-0.3	-0.5
Namibia	-11	-8	-19	5	1.2	0.5	1.7
Seychelles	-5	5	0	3	0.7	0.1	0.8
South Africa	-15	-4	-19	13	1.9	0.5	2.5
Swaziland	-13	-9	-22	12	0.7	0.2	0.9
Tanzania	-4	2	-2	0	0.4	0.0	0.4
Uganda	-6	2	-4	-2	0.5	-0.1	0.4
Zambia	-8	-3	-11	3	1.0	0.8	1.7
Zanzibar	-5	-4	-9	6	0.1	0.3	0.4

In Table 3, the differences in school characteristics have been summarised. Regarding school characteristics such as school type or resources, variations were observed in terms of relation with grade repetition among SACMEQ countries. In 6 of 14 SCMEQ countries, there were more repeaters in isolated or rural areas than in towns or cities. However, Mozambique had more repeaters in towns or cities than in isolated or rural areas. In Mozambique also slightly more pupils in private schools had repeated grades than pupils in government schools, while more pupils in government schools had repeated grades than pupils in private schools in Namibia. In 4 of 14 SACMEQ countries, grade repeaters tended to be in schools with lower level of school resources. Teacher subject matter knowledge seemed to have no relationship to pupil grade repetition in most of SACMEQ countries.

Table 3: Summary of school characteristics by grade repetition.

	Differences in percentage never repeated		Differences in school resources			Differences in teacher reading scores			Differences in teacher mathematics scores		
	Town/city- Isolated/rural	Private- Government	Never - Once	Once - Twice+	Never - Twice+	Never - Once	Once - Twice+	Never - Twice+	Never - Once	Once - Twice+	Never - Twice+
	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.	Dif.
Botswana	4	10	0.5	-0.2	0.3	-2	1	-2	1	12	13
Kenya	10	18	0.9	0.1	1.0	2	-5	-3	11	-5	6
Lesotho	3	-2	0.2	-0.1	0.1	5	-4	1	0	-1	-2
Malawi	5	-3	0.1	0.1	0.2	-15	-7	-22	-5	-10	-15
Mauritius	1	-1	0.0	-1.2	-1.2	c	c	c	c	c	c
Mozambique	-8	-4	-0.4	-0.5	-0.9	9	-10	-1	-12	4	-8
Namibia	12	23	1.6	0.6	2.2	16	3	19	20	1	21
Seychelles	-2	-7	0.2	-0.1	0.1	-1	16	15	26	-15	11
South Africa	20	0	3.1	1.1	4.3	c	c	c	c	c	c
Swaziland	12	0	0.8	0.0	0.8	-2	-1	-2	3	4	7
Tanzania	6	c	-0.1	0.6	0.4	-1	-1	-2	-8	4	-5
Uganda	2	4	0.1	-0.4	-0.3	12	-8	4	-15	6	-9
Zambia	16	12	1.3	-0.5	0.8	1	-4	-3	-1	-6	-7
Zanzibar	6	-7	-0.2	-0.1	-0.3	-3	8	5	-3	15	12

Note 1: There were not private schools in Tanzania.

Note 2: Teachers' scores were not collected in Mauritius and South Africa.

Determining the “frog pond” effect

Was grade repetition only found in the limited number of schools or was it widely spread across schools? If the criteria for repetition/non-repetition are based on pupil academic achievement scores and pre-determined at the national level by national policy, schools with high-achieving pupils should have fewer repeaters than schools with lower-achieving pupils. However, the percentage of repeated pupils in the school with high average scores could be as high as in

schools with low school average scores in countries where great differences in achievement among schools existed, especially where the decision for grade repetition was made at the school or classroom level. In many educational systems, the class teacher has autonomy to determine pupil promotion or repetition. In most educational jurisdictions, there are elaborate procedures involving other faculty and staff, the school head, and the parents, in determining promotion or status of an individual pupil. Often pupil grade repetition is determined by the individual teacher or parent involved and not on nationally standardised criteria. When the teacher (or parent) is forced to make a decision under these circumstances, the “frog pond effect” may occur. It is a phenomenon where a particular pupil is judged in relative terms in comparison of other pupils in their particular class or school but not in terms of regional or national standards.

In Figure 11, the relationship between the school average achievement scores and the percentage of Grade 6 pupils who have repeated a grade has been shown by country. Each dot, square, or triangle represents a school. The schools have been ordered according to the school average of pupil reading scores. The red dots represent schools with over 50 percent of pupil grade repetition. The green squares represent schools with fewer than 50 percent of pupil grade repetition. Blue triangles represent schools with no repeaters. At the bottom of the graph, a correlation coefficient between a school mean of pupil reading scores and the percentage of repeaters within a school have been presented.

If the phenomenon of the “frog pond effect” is small it can be expected that there are more red dots at the bottom end of the distribution, namely in the lower scoring schools, more green squares in the middle, and the blue triangles at the top end of the distribution. On the other hand, if the “frog pond effect” is more prevalent, more red dots, green squares, and blue triangles will be across all schools.

There were instances of grade repetition in all schools in all countries except for Mauritius and Tanzania. From this observation, school heads and teachers were likely to have pupils repeat even when they were attending high achieving schools. Thus it is likely that the “frog pond effect” had influence on deciding pupil repetition.

It is difficult to determine whether the phenomenon of “frog pond effect” was more prevalent in some countries than others, but the following can be proposed. Countries such as Namibia and South Africa had green squares appearing at the bottom and the red at the top and hence the “frog pond effect” can be considered weaker. In a country such as Mozambique, the green squares appeared throughout the distribution but particularly can be seen at the top of the distribution. Under such analysis, the “frog pond effect” could be considered stronger in Mozambique.

Among all SACMEQ countries, except for Mozambique and the Seychelles, a negative correlation existed between the school mean reading scores and the percentage of repeating pupils. This signifies that in these countries a general tendency occurred where high scoring schools featured pupils who repeated a grade on fewer occasions. However, closely examining the graph reveals a large proportion of outliers. For example, in Kenya more than 50 percent of Grade 6 pupils had repeated at least once in schools where the mean score was more than 650. However, it is clear that 50 percent of Grade 6 pupils had repeated at least once in some schools

with a mean score of less than 450. In all SACMEQ countries, it is apparent that schools with high achieving pupils produced fewer repeating pupils. On the contrary, in Mozambique, a possibility of grade repetition was higher in schools with a body of higher achieving pupils.

Insert Figure 11: Percentages repetition within school and school mean of pupils' reading scores by country.

Effect of grader repetition on achievement

The assumption that underlies the policy of grade repetition is to improve the achievement of pupils by repeating the same grade. Concerning significant improvement in the repeat year, questions can be raised about the validity of such a policy and practice on reading achievement in the SACMEQ countries. Since the information regarding the prior achievement level for the repeaters included in the SACMEQ II data archive is not available, the effect of grade repetition cannot be directly measured. Therefore, in this article, it has been examined whether pupils are expected to improve their achievement level to the extent that it will match the level of their classmates the second time around (who are now at least one year younger). An obvious hypothesis is that there would be no significant difference in reading achievement between repeaters and non-repeaters in the same grade if repeating grades is effective.

The achievement in reading was scaled to a mean of 500 and a standard deviation of 100. In Table 4, the score point differences in reading associated with grade repetition have been presented. The left column of overall effect is based on the following simple linear regression equation:

Model 1

$$Y = \beta_0 + \beta_1(zrepeat) + \varepsilon$$

The variable *zrepeat* has been coded Grade 6 pupils who had never repeated as 0 and those who had repeated at least once as 1. Therefore, the value of -93.83 in South African implies that repeaters scored approximately 94 score points lower than non-repeaters. Therefore, in the SACMEQ countries, except for that of Mozambique, pupils who repeated grades did not achieve as high as the pupils never repeated grades.

However, this simple linear regression model ignores that pupils are nested within school and that the magnitude of the effect of grade repetition on achievement varies across schools. In most countries pupils with similar characteristics grouped into a same school. Therefore, the overall effect of grade repetition on achievement might be determined by over-estimating the score difference between repeaters and non-repeaters. As seen in the earlier section, in all SACMEQ countries, the "frog pond effect" phenomenon has been observed. Since the decision on grade repetition is determined and applied at the school level but not at the national level, the effect of grade repetition also needs to be measured within each school.

In the left column of Table 4, within-school effect of grade repetition has been presented, which is based on the multilevel regression model as follows:

Model 2

$$Y_{ij} = \beta_{0j} + \beta_{1j}(zrepeat)_{ij} + \varepsilon_{ij}$$

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + U_{1j}$$

with Y_{ij} being the academic performance of pupil i in school j and $(zrepeat)_{ij}$ being his or her status of grade repetition (0=have not repeated a grade and 1=have repeated a grade once or more), which has been centred around its school mean.

Table 4: The overall and within-school effect of grade repetition on pupils' achievement in reading.

	Overall effect of grade repetition		Within-school effect of grade repetition	
	Score point difference in reading associated with grade repetition (0=not repeated and 1=repeated once and more)		Pupil-level score point difference in reading associated with pupils' grade repetition (0=not repeated and 1=repeated once and more)	
	coefficient	S.E.	coefficient	S.E.
Botswana	-54.1	3.4	-53.0	2.61
Kenya	-32.7	5.8	-25.5	2.82
Lesotho	-24.2	3.8	-18.7	2.05
Malawi	-20.1	3.3	-16.6	2.35
Mauritius	-92.1	5.6	-78.3	5.10
Mozambique	0.5	3.4	-7.2	3.13
Namibia	-48.6	4.4	-26.6	2.30
Seychelles	-35.9	10.8	-46.2	16.33
South Africa	-93.8	9.9	-34.5	3.52
Swaziland	-37.5	5.3	-28.6	2.70
Tanzania	-25.1	6.8	-22.8	4.89
Uganda	-27.4	5.8	-19.7	4.23
Zambia	-42.5	6.4	-29.8	5.68
Zanzibar	-28.7	3.6	-27.2	3.60

In Table 4, the difference between repeaters and non-repeaters was smaller within each school when compared with overall SACMEQ countries except in Mozambique. In particular, in South Africa where the between-school difference in pupil achievement was large ($\rho=0.66$), on average repeating pupils achieved 32 score points lower than their non-repeating classmates in the same school, while it was 94 score points difference for an overall effect. However, even in cases of the decreased within-school effect, it can be observed that repeating pupils did not achieve as high as non-repeating pupils even after repeating the same grade in all SACMEQ countries.

The magnitude of the effect of grade repetition on achievement varied across countries. The largest achievement difference between repeating and non-repeating pupils can be observed in Mauritius. Pupils who had repeated a grade achieved a score that was approximately 80 points lower than those who had never repeated. The least difference was found in Mozambique, where repeating pupils achieved approximately 7 score points lower than non-repeating pupils.

It would appear that the effect of grade repetition was not necessarily consistent across all schools within a given country. In some countries, the effect of grade repetition on reading achievement varied significantly across schools as shown in Table 5. In Lesotho, Mozambique, Namibia, the Seychelles, South Africa, Tanzania, Uganda, Zambia and Zanzibar, the effect varied significantly across schools, while in Botswana, Kenya, Malawi, Mauritius and Swaziland, the effect was constant across all schools.

Table 3: If the effect vary significantly across schools (reported with Chi-square and p-value for U_{ij} in Model 2.)

	Significant vary across schools?	χ^2	p
BOT	No	149.8	>0.5
KEN	No	195.4	0.205
LES	Yes	216.9	0.015
MAL	No	155.0	0.052
MAU	No	158.5	0.163
MOZ	Yes	238.4	0.001
NAM	Yes	539.9	0.000
SEY	Yes	46.4	0.002
SOU	Yes	277.5	0.000
SWA	No	184.8	0.151
TAN	Yes	215.2	0.000
UGA	Yes	259.1	0.000
ZAM	Yes	251.9	0.000
ZAN	Yes	175.0	0.021

In Figure 12, the effect of grade repetition on reading achievement by school in South Africa has been graphically presented. Each slope represents a school. It can be seen that the angle of slope (the effect) varied across schools. In Figure 13, the effect in Botswana has been presented as an example of constant effect across schools.

Insert Figure 12: The effect of grade repetition on reading achievement by school in South Africa.

Insert Figure 13: The effect of grade repetition on reading achievement by school in Botswana.

In summary, pupils did not achieve as high as non-repeating pupils even after repeating the same grade in any of the SACMEQ countries. But, the magnitude of the effect of grade repetition on achievement varied across countries. The magnitude of the effect of grade repetition on achievement also varied across schools with some countries. In some schools, repeating pupils achieved as high as non-repeaters in some schools, while in other cases, repeating pupils achieved lower than non-repeaters even after repeating a grade in another school. In Figure 12, it can be seen that the achievement in reading for repeaters and that for non-repeaters was virtually identical (as indicated by the flat line of synthesized data) in lower scoring schools while a greater disparity (as indicated by a steep line) existed between repeaters and non-repeaters in terms of reading achievement in higher scoring schools. This implies that repeaters reached at the same achievement level as their peers who had not repeated in schools with low school-average achievement scores. This was not the case in schools with a higher school-average achievement scores. This suggests that the magnitude of effect of grade repetition on achievement might be determined by a school's overall achievement level.

Conclusion

This paper has described the characteristics of repeating pupils in the SCMEQ countries. Among these countries, the percentage of pupils who underwent grade repetition varied significantly. According to the SACMEQ II data archive published in October 2004 that included data on grade repetition, the percentage ranged from 10 to 90 percent of all pupils in a given country. On average in participating SACMEQ countries, approximately half of all pupils had repeated at least once during their primary years and many had repeated twice or more. Those pupils who had repeated a grade usually did so before Grade 6, Mauritius is the exception given that this country's pupils are only held back for an important national examination that is held at the end of that school year.

This paper has shown that the effect of grade repetition was inconsistent across schools, even within each country. Repeating pupils occasionally achieved as high as non-repeaters in some schools, while, in other instances, repeating pupils could not match the test score results of non-repeaters in other schools. In South Africa, for example, it would appear that the policy of grade repetition has worked for pupils attending low-achieving schools. However, this was not the case with schools with high achieving pupils. A number of additional school characteristics appear to also influence the effectiveness of grade repetition on achievement. These would include school location, management and administrative effectiveness, school climate, teaching strategies, class size, relationship between teachers and pupils, pupil background, and the make-up of the pupil body within a given school. It is clear that a better understanding of the practice of grade repetition, including such phenomenon as "the frog pond effect", requires further data collection, systematic research and analysis. Until that time, policy-makers in national educational ministries must be more careful of implementing such a policy. While the factors concerning grade repetition are gradually being revealed, what is certain is it places great strain on the financial and human resources. For many education ministries, especially those of member SACMEQ countries, such resources are often extremely limited and must be carefully managed. Clearly, the implications of a policy and practice such as grade repetition must be fully understood.

Appendix

Table A1: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and the Grade 6 pupil's average age.

Country	Grade repeated since Grade 1						Average pupil age	
	Never		Once		Twice+		(in month)	
	%	SE	%	SE	%	SE	mean	SE
Botswana	69	1.0	26	0.9	6	0.6	158	0.4
Kenya	36	1.7	44	1.3	20	1.2	168	0.8
Lesotho	39	1.6	37	1.2	24	1.1	170	0.7
Malawi	34	2.0	51	1.7	15	1.2	174	1.2
Mauritius	81	0.8	19	0.8	0	0.0	136	0.1
Mozambique	22	1.0	36	1.2	42	1.3	177	0.6
Namibia	46	1.2	41	1.0	13	0.8	166	0.6
Seychelles	90	0.8	6	0.6	4	0.5	139	0.1
South Africa	58	1.9	27	1.3	15	1.2	157	0.7
Swaziland	41	1.4	36	1.1	23	1.3	166	0.6
Tanzania	77	1.8	15	1.3	8	1.1	180	0.8
Uganda	47	1.9	37	1.4	16	1.2	171	0.9
Zambia	48	1.6	37	1.2	14	1.1	167	1.4
Zanzibar	72	1.0	23	1.0	5	0.5	179	0.4

Table A2: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and repeated Grade 6.

Country	Grade never repeated		Grade repeated once				Grade repeated twice+			
			Grade 6 repeated		Grade 6 not repeated		Grade 6 repeated		Grade 6 not repeated	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	69	1.0	4	0.4	22	0.9	2	0.2	4	0.5
Kenya	36	1.7	11	0.7	33	1.2	6	0.6	14	0.9
Lesotho	39	1.6	8	0.8	29	1.2	6	0.5	17	1.0
Malawi	34	2.0	9	0.9	41	1.7	3	0.6	12	1.0
Mauritius	81	0.8	18	0.8	1	0.2	0	0.0	0	0.0
Mozambique	22	1.0	11	0.8	26	1.0	16	0.8	26	1.3
Namibia	46	1.2	12	0.7	29	1.0	4	0.5	9	0.6
Seychelles	90	0.8	1	0.3	5	0.6	1	0.3	3	0.4
South Africa	58	1.9	8	0.8	20	1.3	5	0.8	10	0.9
Swaziland	41	1.4	12	1.1	24	1.0	9	0.7	15	0.9
Tanzania	77	1.8	3	0.5	12	1.2	4	0.8	4	0.7
Uganda	47	1.9	15	1.1	22	1.4	8	0.9	8	0.7
Zambia	48	1.6	17	1.1	21	1.4	7	1.0	7	0.6
Zanzibar	72	1.0	4	0.5	19	0.9	1	0.2	4	0.5

Table A3: The average age of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.

Country	Average pupil age (in month), by grade repeated					
	Never		Once		Twice+	
	Mean	SE	Mean	SE	Mean	SE
Botswana	154	0.4	164	0.5	173	1.1
Kenya	160	0.9	170	0.7	179	1.2
Lesotho	162	0.9	170	0.9	180	0.9
Malawi	167	1.9	177	1.4	181	1.3
Mauritius	134	0.1	146	0.1	155	2.0
Mozambique	170	1.2	175	0.8	182	0.7
Namibia	160	0.8	170	0.7	178	1.1
Seychelles	138	0.1	143	0.7	138	0.6
South Africa	150	0.6	165	0.9	169	1.6
Swaziland	157	0.8	170	0.8	179	0.8
Tanzania	180	0.9	184	1.4	182	1.8
Uganda	169	1.1	174	1.3	172	1.5
Zambia	162	1.3	170	1.6	173	2.6
Zanzibar	178	0.5	182	0.8	186	2.0

Table A4: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated once, and twice or more since Grade 1 by pupils' gender.

Country	Grade repeated, by gender												Differences in percentage never repeated (Girl-Boy)	
	Boy						Girl							
	Never		Once		Twice +		Never		Once		Twice +		Dif.	SE
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE		
Botswana	60	1.5	32	1.3	8	0.9	77	1.1	20	1.0	4	0.5	17	1.7
Kenya	35	1.8	43	1.5	22	1.5	37	2.0	45	1.8	18	1.5	2	1.9
Lesotho	34	1.9	37	1.6	29	1.7	44	1.9	37	1.4	19	1.3	10	2.1
Malawi	35	2.3	50	2.1	15	1.4	32	2.4	52	2.1	16	1.5	-3	2.7
Mauritius	80	1.1	20	1.1	0	0.1	83	0.9	17	0.9	0	0.0	3	1.1
Mozambique	25	1.3	36	1.5	40	1.6	18	1.3	37	1.6	45	1.7	-7	1.9
Namibia	43	1.4	40	1.2	16	1.1	48	1.4	41	1.3	10	0.8	5	1.5
Seychelles	88	1.2	7	0.9	5	0.8	91	1.0	6	0.8	3	0.7	3	1.6
South Africa	51	2.2	32	1.6	17	1.5	64	2.2	24	1.6	12	1.6	13	2.3
Swaziland	35	2.0	37	1.5	28	1.7	46	1.8	35	1.7	19	1.3	12	2.6
Tanzania	77	2.1	15	1.4	8	1.3	77	2.1	15	1.7	8	1.3	0	2.2
Uganda	48	2.1	39	1.8	14	1.4	46	2.5	34	1.7	19	1.8	-2	2.6
Zambia	47	1.8	38	1.6	15	1.4	50	1.9	37	1.5	13	1.4	3	2.0
Zanzibar	69	1.6	25	1.5	6	0.8	76	1.4	21	1.4	3	0.6	6	2.1

Table A5: Socio-economic backgrounds of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.

Country	Pupils' socio-economic background, by grader repeated					
	Never		Once		Twice+	
	Mean	SE	Mean	SE	Mean	SE
Botswana	7.2	0.2	6.6	0.2	5.8	0.3
Kenya	6.8	0.2	5.9	0.1	5.5	0.2
Lesotho	6.0	0.1	5.8	0.1	5.6	0.1
Malawi	5.8	0.3	5.0	0.2	4.6	0.2
Mauritius	10.7	0.1	10.1	0.1	9.0	0.7
Mozambique	5.1	0.2	5.4	0.1	5.6	0.1
Namibia	7.0	0.1	5.8	0.1	5.3	0.1
Seychelles	11.1	0.0	10.4	0.2	10.3	0.3
South Africa	9.4	0.2	7.5	0.2	6.9	0.2
Swaziland	7.9	0.2	7.2	0.1	7.0	0.2
Tanzania	5.3	0.2	4.9	0.3	4.9	0.4
Uganda	5.1	0.2	4.6	0.1	4.7	0.2
Zambia	6.9	0.2	5.9	0.2	5.1	0.2
Zanzibar	5.6	0.1	5.4	0.1	5.1	0.3

Table A6: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated once, and twice or more since Grade 1 by school location.

Country	Grade repeated, by school location												Differences in percentage never repeated	
	Isolated/rural						Town/city							
	Never		Once		Twice+		Never		Once		Twice+		(Town/city-Isolated/rural)	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	Dif.	SE
Botswana	66	1.6	26	1.3	7	0.9	71	1.4	25	1.3	4	0.6	4	2.2
Kenya	33	2.2	45	1.6	22	1.5	43	2.6	41	1.9	17	2.0	10	3.4
Lesotho	38	1.9	37	1.4	24	1.4	41	3.0	37	2.4	22	1.9	3	3.6
Malawi	32	2.4	53	2.1	15	1.5	37	3.9	47	3.4	16	2.3	5	4.7
Mauritius	81	1.1	19	1.1	0	0.0	82	1.3	18	1.3	0	0.1	1	1.7
Mozambique	28	2.1	36	2.3	36	2.6	19	1.1	36	1.4	44	1.7	-8	2.5
Namibia	42	1.5	43	1.3	16	1.1	53	1.8	38	1.6	9	0.9	12	2.4
Seychelles	92	1.7	6	1.5	3	1.0	89	0.9	6	0.7	4	0.6	-2	1.9
South Africa	47	2.3	32	1.8	21	1.9	66	2.6	23	1.8	10	1.4	20	3.5
Swaziland	37	1.4	38	1.3	25	1.6	49	3.1	30	1.9	20	2.3	12	3.4
Tanzania	75	2.2	17	1.5	8	1.2	81	3.6	12	2.9	8	2.6	6	4.3
Uganda	47	2.2	37	1.7	17	1.4	49	3.6	37	2.6	14	2.7	2	4.3
Zambia	40	2.0	44	1.5	15	1.3	56	2.3	31	1.5	13	2.0	16	3.1
Zanzibar	70	1.2	25	1.2	6	0.6	76	1.9	20	1.8	3	0.9	6	2.2

Table A7: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 by school type.

Country	Grade repeated, by school type												Differences in percentage never repeated (Private-Government)	
	Government						Private							
	Never		Once		Twice+		Never		Once		Twice+		Dif.	SE
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE		
Botswana	68	1.0	26	0.9	6	0.6	78	7.1	19	5.4	3	2.1	10	7.1
Kenya	35	1.7	44	1.2	21	1.2	53	10.0	32	8.3	15	5.2	18	10.2
Lesotho	41	2.4	36	1.8	23	1.7	38	2.1	38	1.6	24	1.4	-2	3.2
Malawi	34	2.0	50	1.8	16	1.2	31	9.9	67	11.6	2	1.8	-3	10.1
Mauritius	81	0.9	19	0.9	0	0.0	81	1.8	19	1.8	0	0.0	-1	2.0
Mozambique	22	1.0	36	1.2	42	1.4	18	1.6	33	9.5	49	9.6	-4	1.9
Namibia	45	1.2	42	1.0	13	0.8	68	7.2	22	4.0	10	4.1	23	7.4
Seychelles	90	0.8	6	0.6	4	0.5	83	5.4	17	5.4	0	0.0	-7	5.5
South Africa	58	2.0	27	1.3	15	1.2	58	23.3	17	11.0	25	12.3	0	23.5
Swaziland	41	1.4	36	1.2	23	1.3	41	6.6	34	5.5	26	4.5	0	6.7
Tanzania	77	1.8	15	1.3	8	1.1	c	c	c	c	c	c	c	c
Uganda	47	1.9	37	1.5	16	1.2	51	6.3	29	8.1	20	6.0	4	6.6
Zambia	48	1.6	37	1.3	14	1.2	59	11.2	25	10.4	16	8.9	12	11.3
Zanzibar	72	1.1	23	1.0	5	0.5	65	7.0	30	6.9	4	2.4	-7	7.1

C The category does not apply in the country concerned. Data are therefore missing.

Table A8: Resources of schools which pupils in Grade 6 in SACMEQ countries who have repeated once, twice or more since Grade 1 and the Grade 6 attended by country.

Country	School resources, by grade repeated					
	Never		Once		Twice+	
	Mean	SE	Mean	SE	Mean	SE
Botswana	9.9	0.3	9.5	0.2	9.7	0.3
Kenya	8.0	0.3	7.1	0.2	7.1	0.3
Lesotho	6.3	0.2	6.1	0.2	6.2	0.2
Malawi	4.4	0.3	4.3	0.2	4.2	0.2
Mauritius	14.4	0.2	14.4	0.2	15.7	1.6
Mozambique	6.4	0.3	6.7	0.3	7.3	0.3
Namibia	10.8	0.3	9.3	0.3	8.7	0.4
Seychelles	16.7	0.0	16.5	0.1	16.7	0.1
South Africa	13.2	0.6	10.1	0.4	9.0	0.5
Swaziland	9.0	0.4	8.2	0.3	8.2	0.3
Tanzania	5.6	0.2	5.7	0.5	5.1	0.3
Uganda	6.8	0.4	6.7	0.3	7.1	0.4
Zambia	7.5	0.4	6.2	0.4	6.7	0.7
Zanzibar	6.2	0.0	6.4	0.1	6.5	0.2

Table A9: Reading and mathematics achievement scores of teachers under whom pupils in Grade 6 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

Country	Teachers' achievement scores in reading, by pupils' grade repeated						Teachers' achievement scores in mathematics, by pupils' grade repeated					
	Never		Once		Twice+		Never		Once		Twice+	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Botswana	757	4.2	759	3.4	759	6.0	754	5.5	754	5.3	742	10.1
Kenya	794	5.8	793	5.2	798	5.4	974	11.9	964	8.7	969	12.3
Lesotho	724	5.0	719	4.9	723	4.7	739	6.5	739	6.2	740	5.6
Malawi	705	7.8	719	5.9	726	7.4	771	11.1	776	9.1	786	10.7
Mozambique	719	6.1	710	6.2	720	5.7	775	8.6	787	8.1	783	8.7
Namibia	737	5.3	721	5.0	718	6.3	746	7.7	726	6.8	725	8.8
Seychelles	808	1.3	809	7.7	793	9.2	875	1.4	849	6.2	864	10.1
Swaziland	748	5.7	749	6.2	750	6.5	811	9.4	808	8.3	804	7.9
Tanzania	706	3.7	707	4.0	709	5.7	793	8.6	801	7.8	797	10.9
Uganda	701	10.3	689	9.4	697	10.3	816	11.0	831	15.2	825	18.9
Zambia	760	5.5	759	5.2	763	8.4	758	7.6	758	7.1	765	10.2
Zanzibar	653	1.3	657	3.2	648	7.8	689	1.5	692	4.0	677	11.9

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Thirteen figures to be inserted into the article of Miyako Ikeda

Figure 1: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and the Grade 6 pupils' average age in years.

Figure 2: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and repeated Grade 6.

Figure 3: The average age of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.

Figure 4: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated once, and twice or more since Grade 1 by pupils' gender.

Figure 5: Socio-economic backgrounds of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.

Figure 6: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated once, and twice or more since Grade 1 by school location.

Figure 7: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated once, and twice or more since Grade 1 by school type.

Figure 8: Recourses of schools which pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 attended.

Figure 9: Reading achievement scores of teachers under whom pupils in Grade 8 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

Figure 10: Mathematics achievement scores of teachers under whom pupils in Grade 8 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

Figure 11: Percentages repetition within school and school mean of pupils' reading scores by country.

Figure 12: The effect of grade repetition on reading achievement by school in South Africa.

Figure 13: The effect of grade repetition on reading achievement by school in Botswana.

Figure 1: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and the Grade 6 pupils' average age in years.

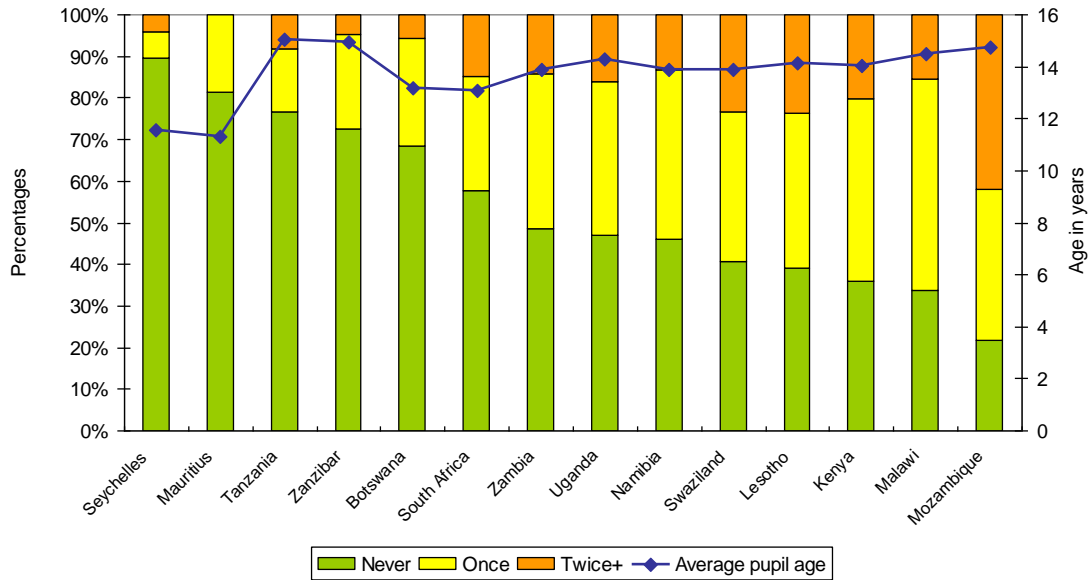
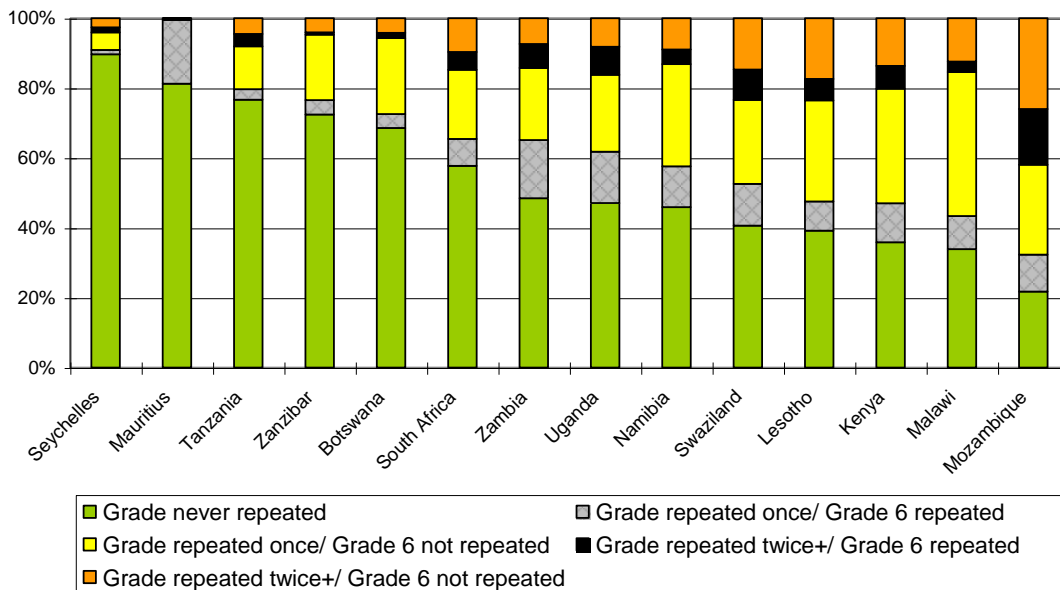
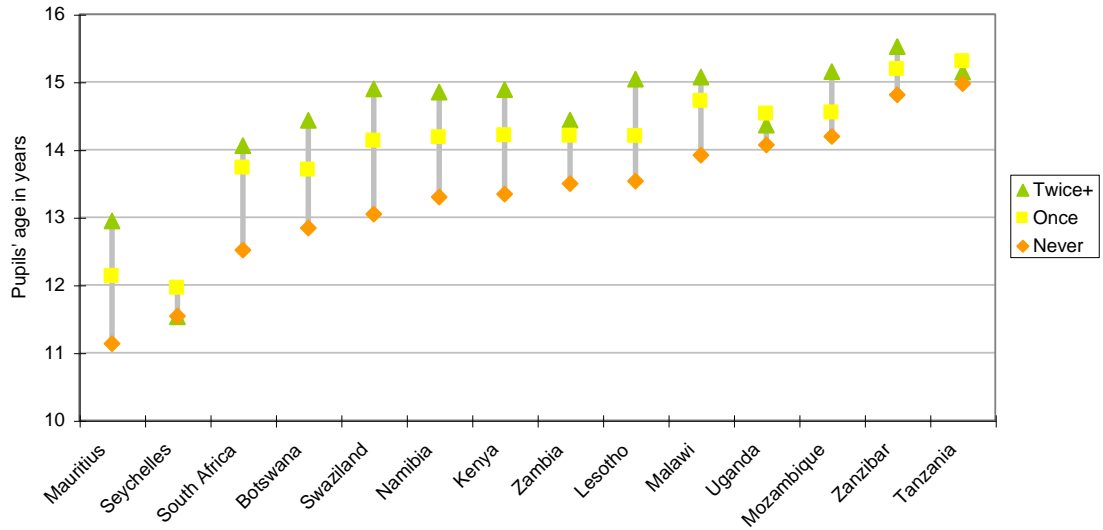


Figure 2: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 and repeated Grade 6.



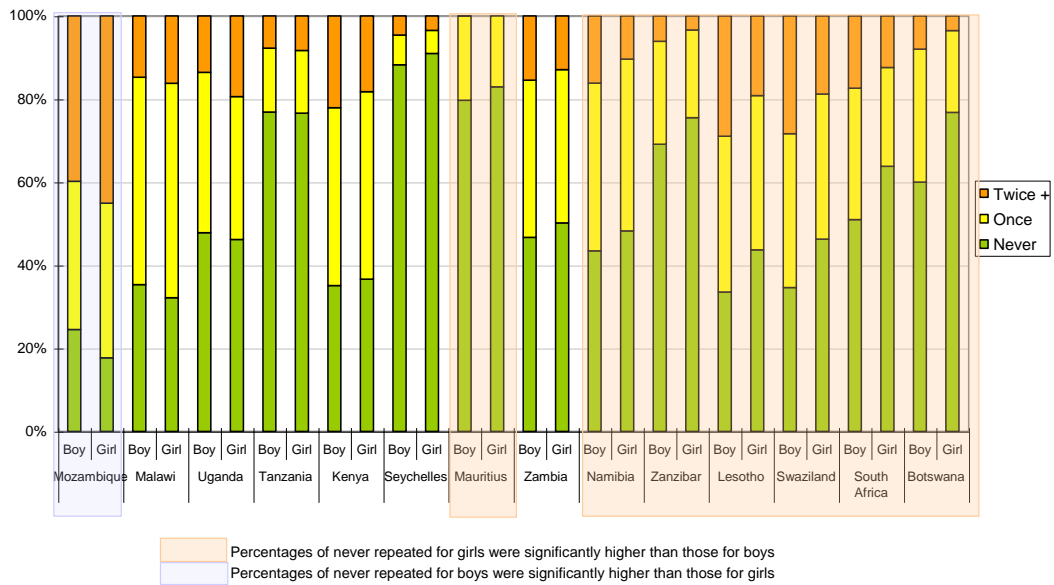
Source: Table A2

Figure 3: The average age of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.



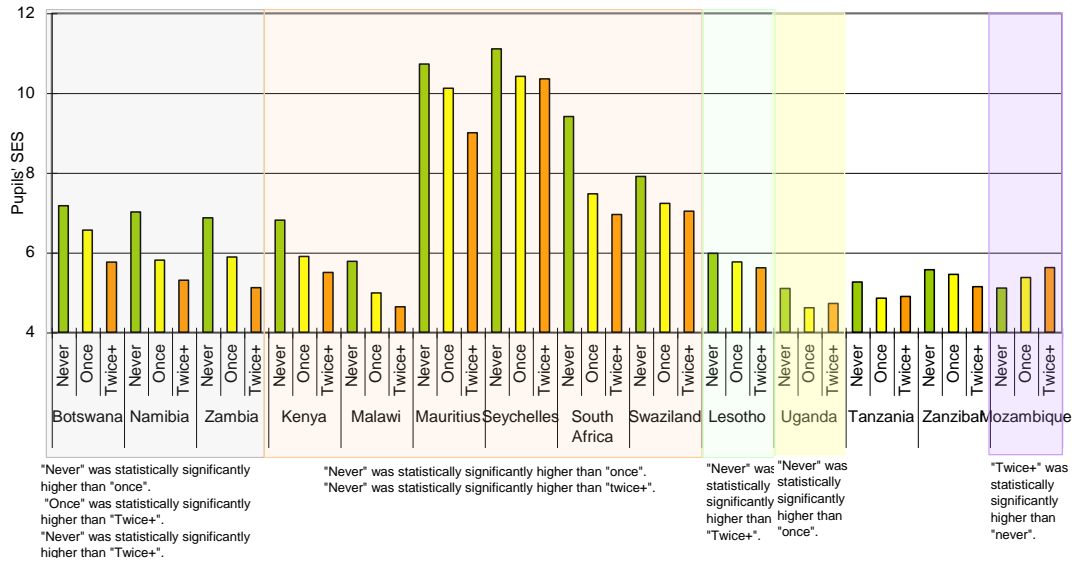
Source: Table A3

Figure 4: Percentages of pupils in Grade 6 in the SACMEQ countries who had repeated once, and twice or more since Grade 1 by pupils' gender.



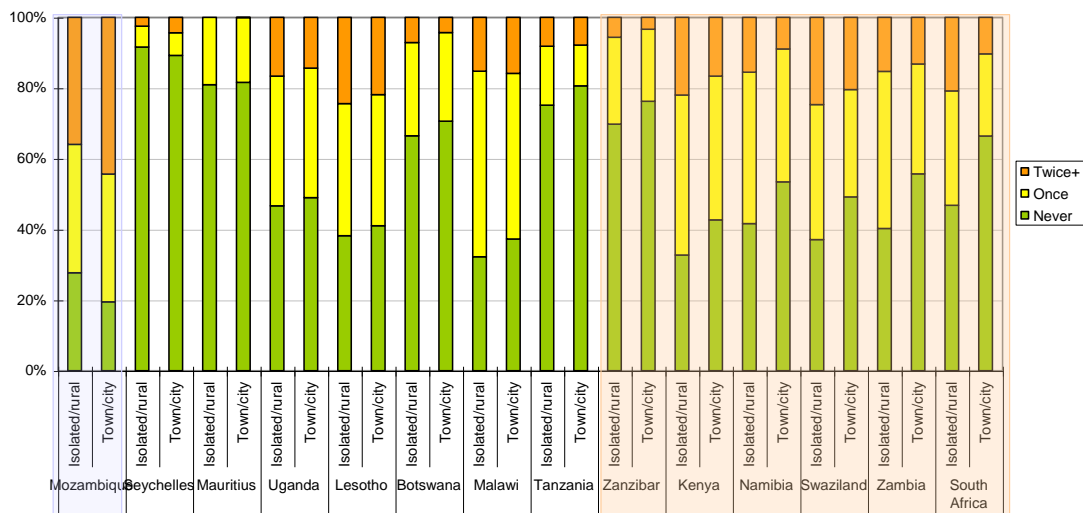
Source: Table A4

Figure 5: Socio-economic backgrounds of pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1.



Source: Table A5

Figure 6: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated once, and twice or more since Grade 1 by school location.



Percentages of never repeated for pupils in town/city were significantly higher than those in isolated/rural
 Percentages of never repeated for pupils in isolated/rural were significantly higher than those in town/city

Source: Table A6

Figure 7: Percentages of pupils in Grade 6 in the SACMEQ countries who have repeated once, and twice or more since Grade 1 by school type.

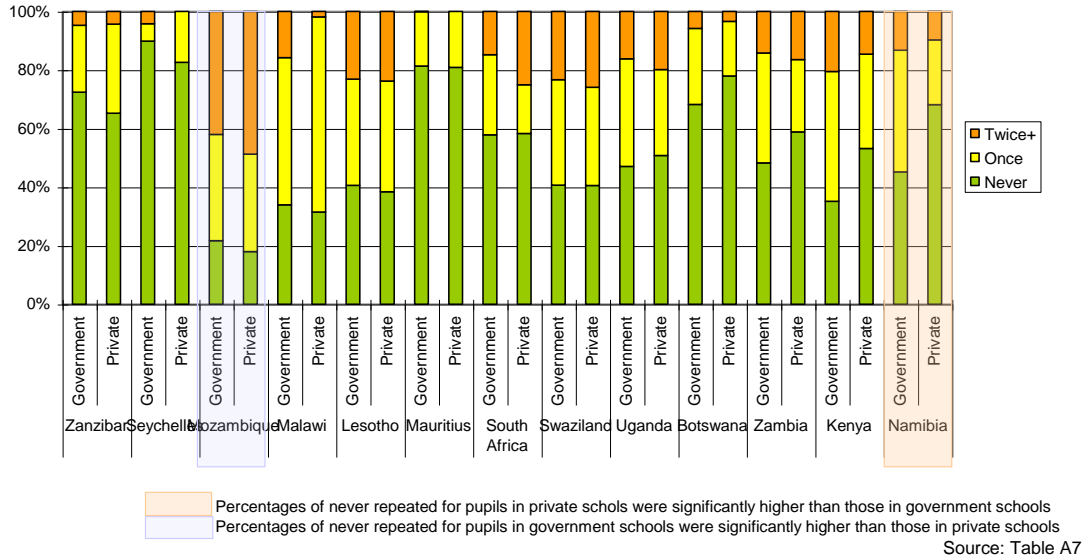


Figure 8: Recourses of schools which pupils in Grade 6 in the SACMEQ countries who had repeated never, once, and twice or more since Grade 1 attended.

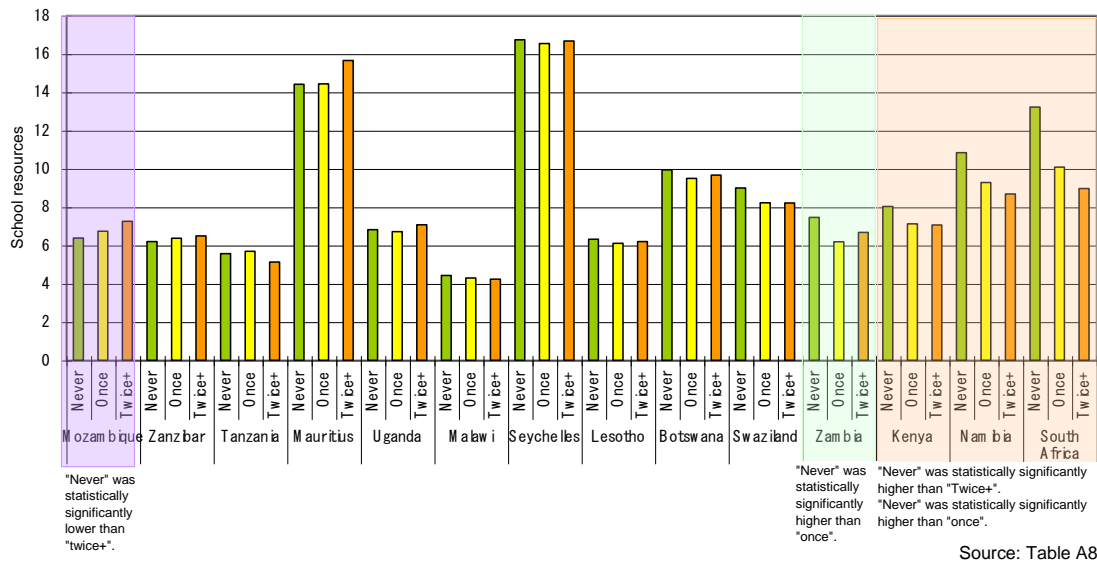


Figure 9: Reading achievement scores of teachers under whom pupils in Grade 8 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

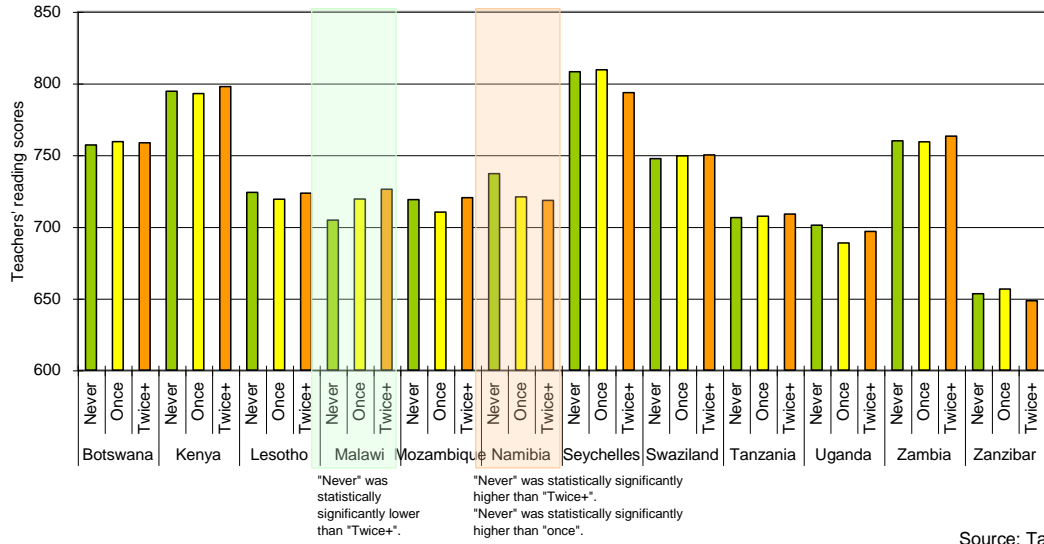


Figure 10: Mathematics achievement scores of teachers under whom pupils in Grade 8 in the SACMEQ countries who have repeated never, once, and twice or more since Grade 1 studied.

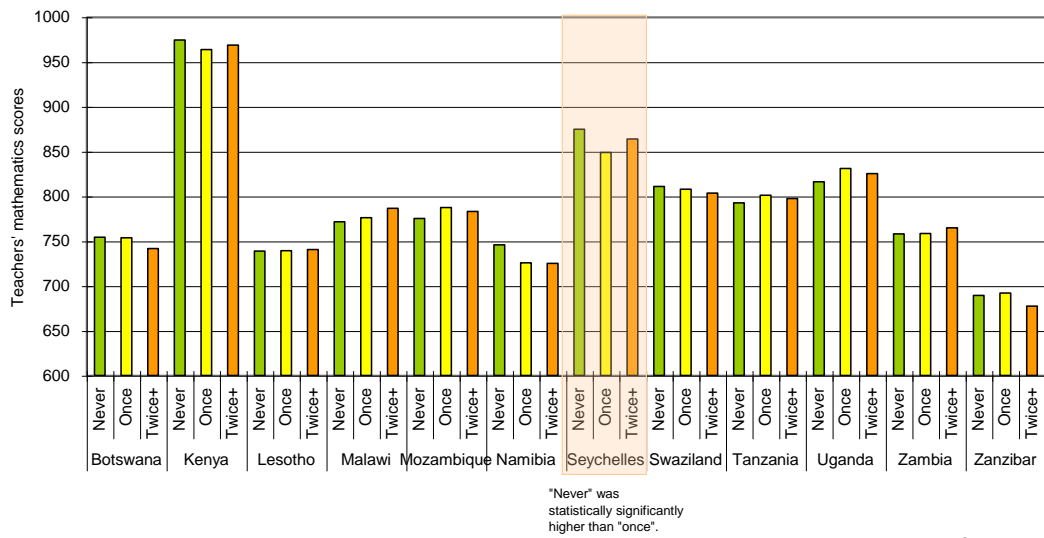


Figure 11: Percentages repetition within school and school mean of pupils' reading scores by country.

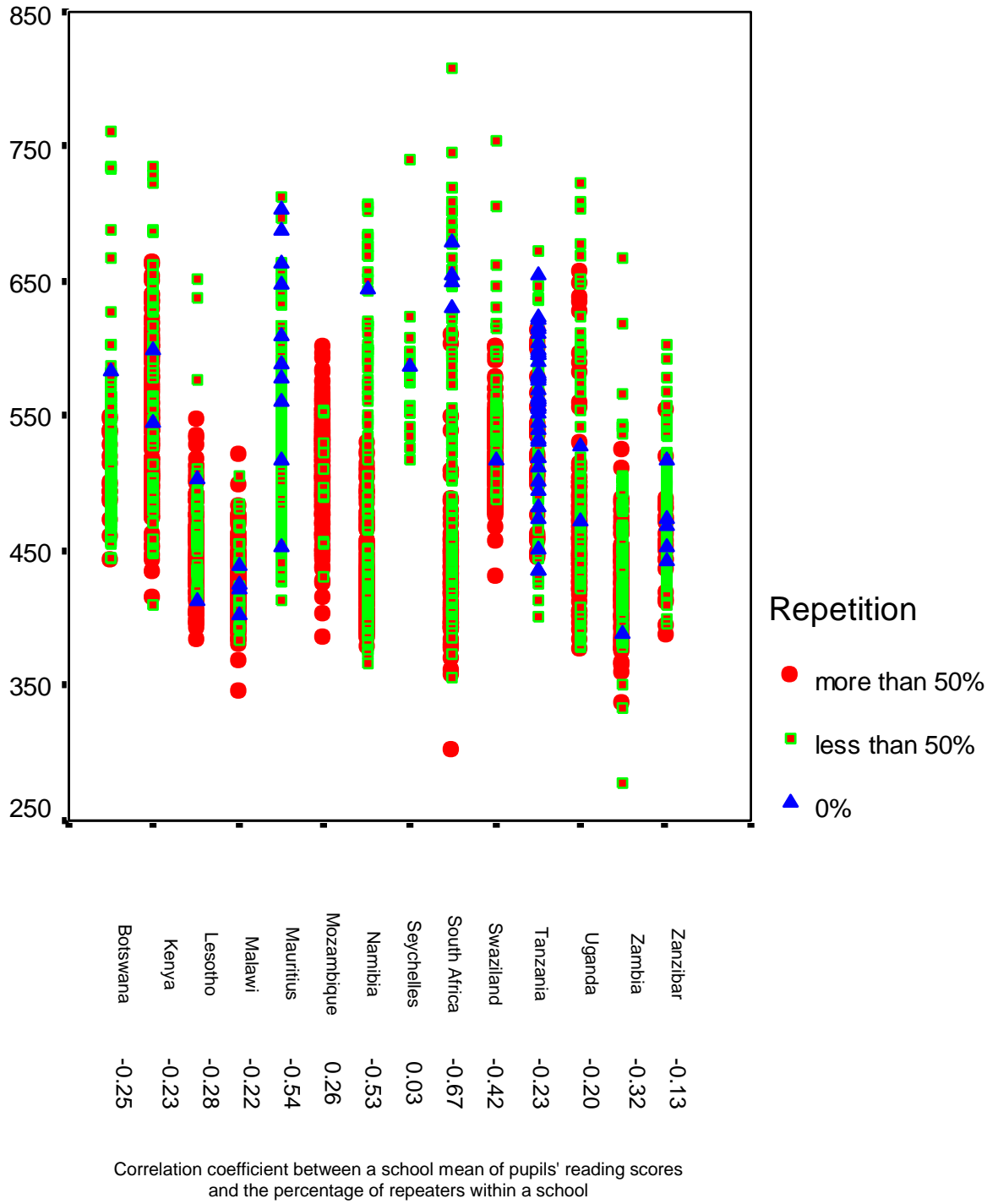


Figure 12: The effect of grade repetition on reading achievement by school in South Africa.

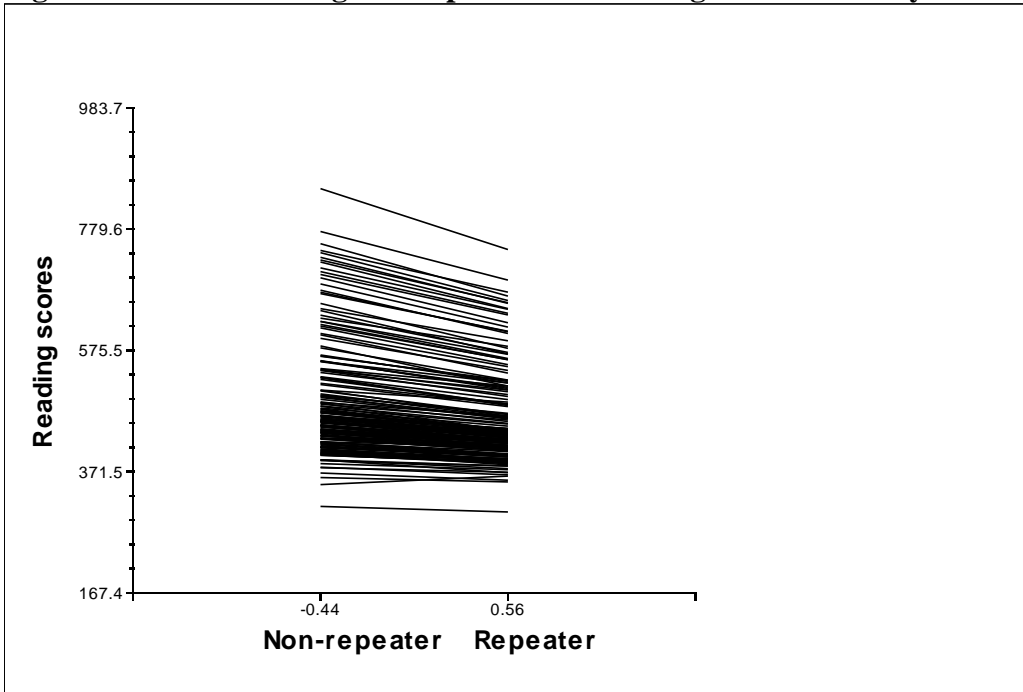


Figure 13: The effect of grade repetition on reading achievement by school in Botswana.

