

Individual-Level Factors

	Botswana	Kenya	Lesotho	Malawi	Mauritius	Mozambique	Namibia	Seychelles	South Africa	Swaziland	Tanzania	Uganda	Zambia	Zanzibar	Zimbabwe	T1	
Pupil individual characteristics																	
Pupil age	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
Female pupil	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	13
Grade repetition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
Days absent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Speaking language of instruction	+	-	-	+	+	+	+	+	+	-	-	-	+	+	+	9	
Home environment																	
Socioeconomic status	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	13
Number of siblings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Meals per week	+	-	-	+	+	+	+	-	-	xx	-	-	-	-	-	5	
Number of household tasks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
Learning culture (books at home)	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	6	
Parents alive	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Living with parents/relatives	-	-	-	+	-	-	-	+	-	-	-	-	-	+	+	4	
Personalized learning support																	
Pre-school attendance	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+	6	
Pupil has learning materials	-	+	-	-	+	+	+	+	+	+	+	+	+	+	+	7	
Homework	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	11	
Homework help at home	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+	3	
Extra tuition	-	+	-	-	+	+	+	+	-	-	+	-	-	+	+	6	
Working place	-	-	-	-	-	-	-	-	-	-	+	+	-	+	+	4	
Mathematics textbook ownership	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+	5	
Travel distance to school	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	

Interpretation: Younger pupils were estimated to achieve better mathematics scores than their older counterparts. This pupil age effect was significant in nine school systems.

Potential Implication: Parents and education authorities in SACMEQ nations could ensure that pupils start schooling at the official age of entry and also minimize grade repetition.

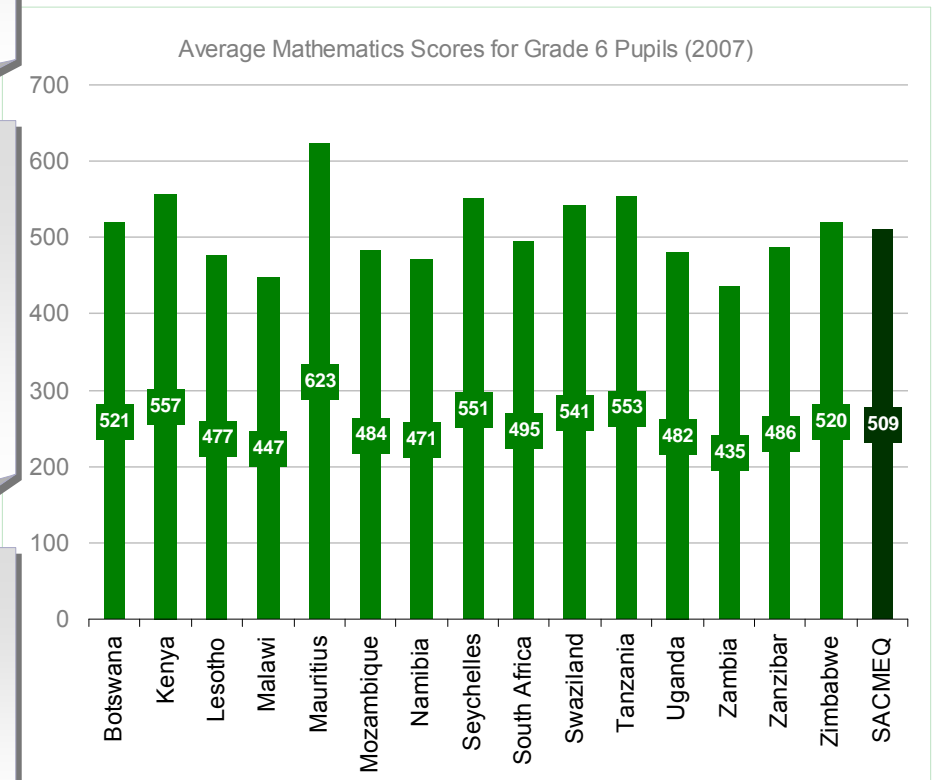
Interpretation: Pupils who undertook fewer household tasks were estimated to perform better than pupils who undertook more household tasks in four schools systems (Mauritius, Namibia, Seychelles, and Tanzania Mainland).

Potential Implication: Parents need to be encouraged to reduce the time spent on household tasks by pupils because it is likely that these tasks could be interfering with pupils' time for academic activities at home, such as homework and revision of school work.

Interpretation: Pupils who attended preschool were likely to achieved better mathematics scores than pupils who never attended preschool.

Potential Implication: Education authorities plus other interested parties in SACMEQ nations might need to invest more on early childhood education programs and encourage parents to take their children through these programs.

Factors Associated with Grade 6 Pupil Mathematics Achievement in 2007



Group-Level Factors

	Botswana	Kenya	Lesotho	Malawi	Mauritius	Mozambique	Namibia	Seychelles	South Africa	Swaziland	Tanzania	Uganda	Zambia	Zanzibar	Zimbabwe	T1	
Teacher characteristics																	
Teacher teaching hours per week	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Teacher subject matter knowledge	-	+	-	-	xx	-	+	+	+	+	+	+	+	+	+	5	
Teacher days absent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
Classroom environment																	
Class size	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
School head characteristics																	
Number of years as a teacher	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+	4	
School environment																	
School resources	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	7	
Urban school	+	+	+	-	-	-	+	+	+	+	+	+	+	+	+	7	
Number of school inspections	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
School community contribution	+	-	-	-	-	-	-	-	+	+	+	+	+	+	+	2	
Pupil-teacher ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	xx	-	5	
Private school	-	+	-	-	xx	-	-	-	-	-	xx	+	-	+	+	3	
Free school meals	-	+	-	-	-	-	-	-	-	-	xx	-	-	-	-	4	
School size	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	3	
Mean socioeconomic status	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-	2	
Mean meals per week	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	2	
Mean learning materials	-	-	-	+	-	-	-	-	-	-	-	-	+	+	+	2	

Interpretation: Pupils taught by teachers who had higher mathematics scores were estimated to perform better than pupils taught by teachers with lower mathematics scores. This effect was significant in five school systems (Kenya, Namibia, South Africa, Swaziland, and Tanzania Mainland). Teachers were not tested in Mauritius.

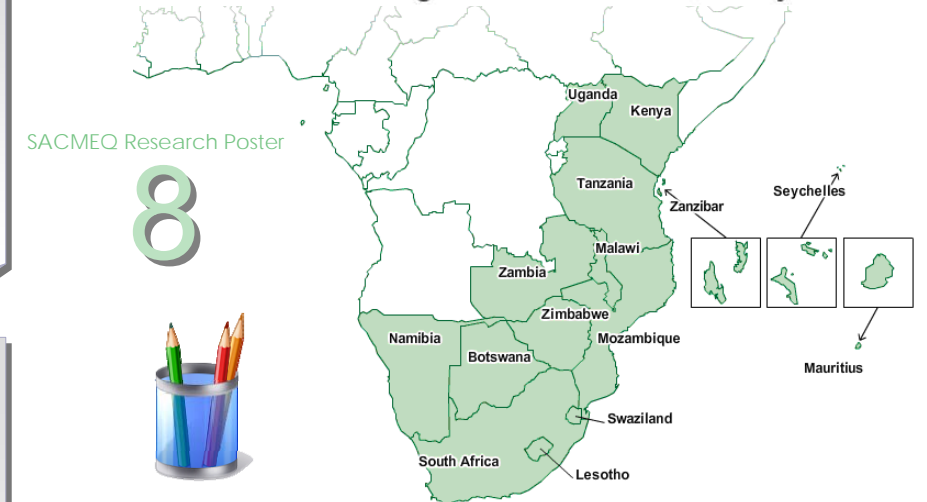
Potential Implication: Education authorities may wish to review their teacher-training and recruitment policies to ensure that all teachers have excellent subject-matter knowledge.

Interpretation: Pupil in schools with more physical resources (such as school library, meeting hall, staff room, school head office, sports area, water, electricity, telephone, fax machine, overhead projector, radio, TV set, photocopier, and computer) were estimated to perform better than pupils in schools with fewer physical resources.

Potential Implication: Education authorities should ensure equity in resources among schools. In addition, the ministries of education in collaboration with parents and development partners should endeavour to provide more resources to schools.



Southern and Eastern Africa Consortium for Monitoring Educational Quality



SACMEQ's research and training activities have been generously supported for over a decade by the Netherlands Government



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+ This variable had a **positive** significant effect ($p \leq 0.05$).
 - This variable had a **negative** significant effect ($p \leq 0.05$).
 xx This variable was not available for testing in the model for the mentioned school system.
 T1 The number of times the variable was identified as significant ($p \leq 0.05$) across the 15 school systems.

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