

The low-achievement trap: CHANGING THE CULTURE OF INEFFICIENCY in teaching

This article is based on Merlie Carnoy, Linda Chisholm, Bagele Chilisa and others. The Low Achievement Trap: Comparing Schooling in Botswana and South Africa (HSRC Press 2012).

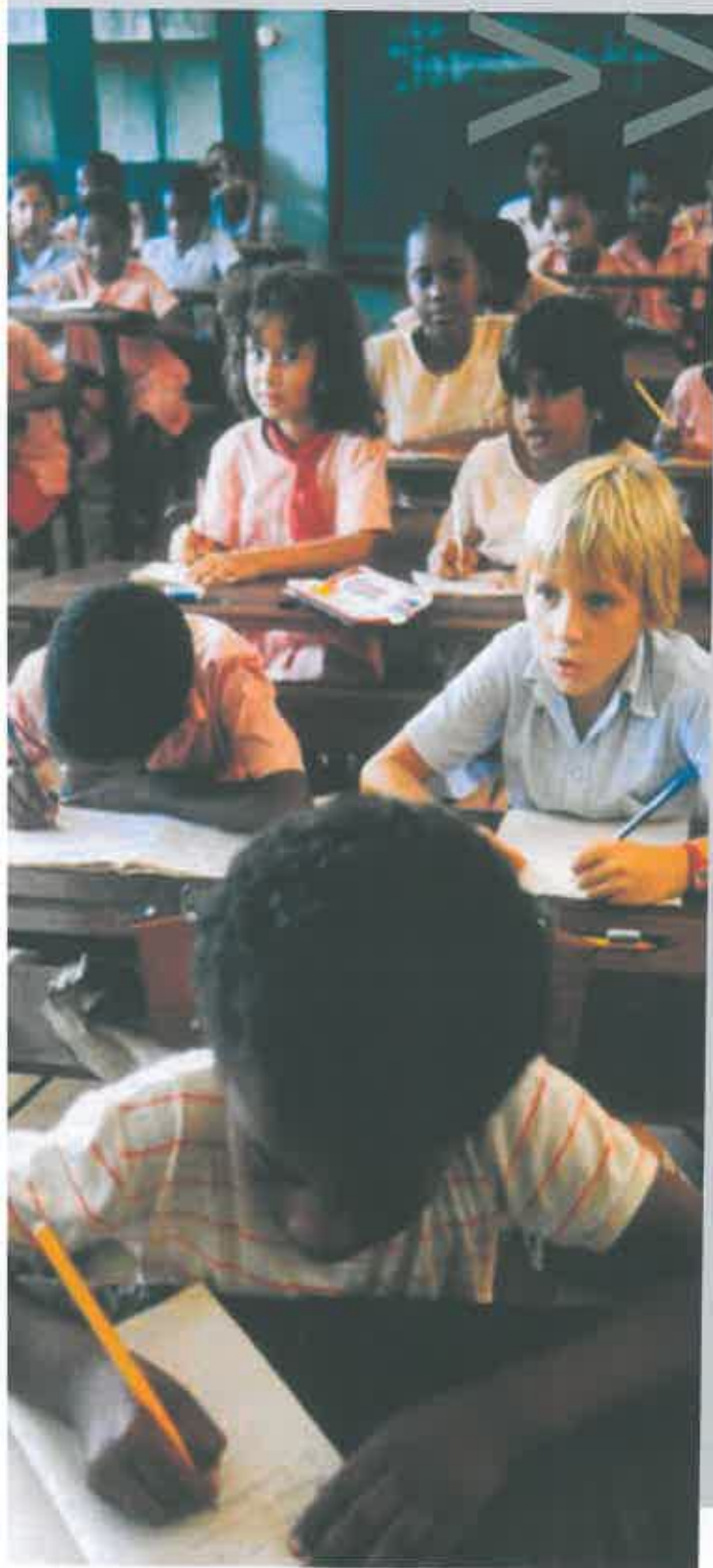
What knowledge, skills, values and attributes do education and training programmes need to provide teachers to ensure that their learners perform well in mathematics? In a unique study to explore the relationship between teacher quality and learning outcomes Martin Carnoy, Linda Chisholm and Bagele Chilisa compared mathematics teachers in North West schools with those of teachers in Botswana, and came up with some intriguing results.

South African students score poorly in mathematics and language tests when compared with students from other African countries and when considered against what should be expected almost 20 years after the achievement of democracy. The TIMSS, PIRLS, and SACMEQ studies¹, as well as the Department of Basic Education's Annual National Assessments, all show that South African pupils perform well below their academic potential. In the international TIMSS and PIRLS we are at the bottom of the class. In the regional SACMEQ studies, we fall below the SACMEQ norm.

The reasons for our poor performance are well-known, but have never been revealed in as much empirical detail as in this comparative study among similar students on either side of the South Africa-Botswana border. The National Planning Commission (2011) synthesised an emerging consensus on the causes of poor results. School contexts are as important as what goes on inside schools and classrooms. But ultimately the crux of the matter, according to the Commission, is school leadership and management, and teacher performance.

In 2009 we conducted our classroom-based study of teacher quality and learning outcomes. We focused on the characteristics of teachers and teaching that may contribute to student learning gains in Grade 6 of a group of lower- and lower-middle income schools in two different historical settings: North West province and Botswana. We sampled

¹ Trends in International Mathematics and Science Study (TIMSS); Progress in International Reading Literacy Study (PIRLS); Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ).



60 schools in each of the two countries, 62 Grade 6 mathematics teachers in North West schools and 64 teachers in Botswana, covering a total of 5 500 students in those 126 classrooms. (Figure 1).

ROLE OF POLITICAL CONTEXT

Contexts play a role in learner performance, but how do they do so? One of the aspects we consider is long-range historical and political differences between contexts. Despite South Africa being much larger, socially complex and more heterogeneous than Botswana, for example, the two countries - and especially the border region - share important similarities. At a broader level South Africa and Botswana are both middle-income countries and highly unequal. In their own way both are 'star performers', although South Africa's growth pattern has not been as dramatic as that of Botswana in the latter part of the 20th century.

Both countries have very different political histories, which have shaped the respective educational systems. When looking back over a century, Botswana's political history

has been one of relative peace and calm. By comparison, South Africa's history - and especially its educational history - has been marked by conflict and violence.

Educational policies in Botswana did not change dramatically but gradually and incrementally improved after the achievement of independence in 1966. The comparable period in South Africa - the period of high apartheid - was one in which educational policies were imposed on the majority by force and accompanied by repression. Educational change after 1994 continued to occur in a conflictual manner.

Spending on education in the two countries is similar and the nature of the policies is not that dissimilar but there are tremendous differences in how they have been implemented.

HOW WE DID IT

Perhaps it is not surprising that a careful study of teaching practices and learning gains over time has revealed differences and patterns

that point to why South African children do less well than those in Botswana schools.

The method we used makes this a unique study. This is the first study that has examined these issues in such depth in one context; tested learners and teachers; asked them to complete questionnaires; took videos in class; checked learner notebooks and made observations of the schools and their environments (Figure 2).

The study is also unique in the way it measured gains in student learning in mathematics in each region over the course of a Grade 6 academic year. These changes in achievement in Grade 6 are significant because they can be associated directly with the quality of teachers and other classroom conditions that students experienced in that year. In the process, we examined teachers' knowledge and pedagogical content knowledge, teacher preparation and experience, school management and how much was taught during the school year.

Figure 1: Frequency of observed mathematics lessons - 2009

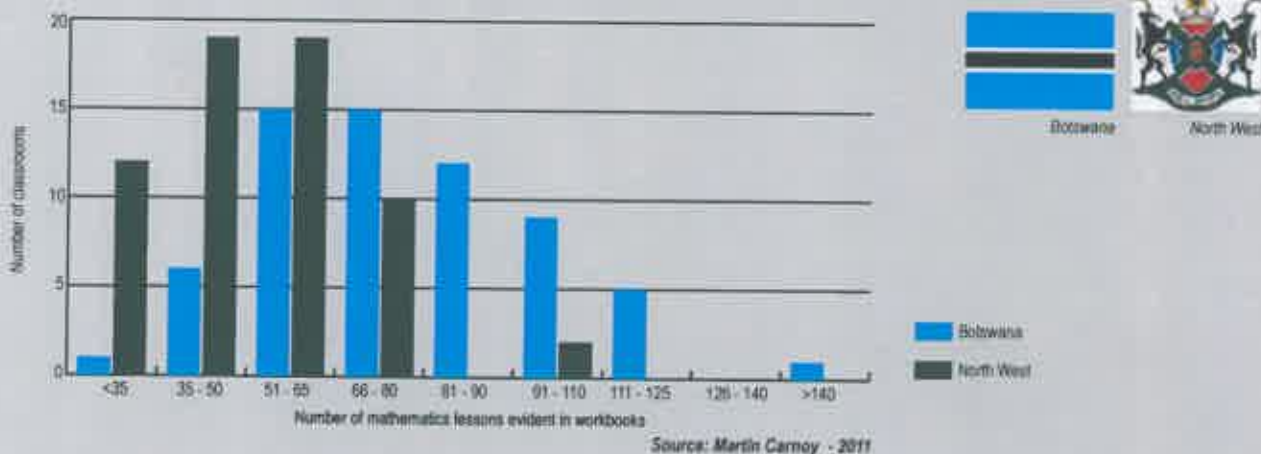
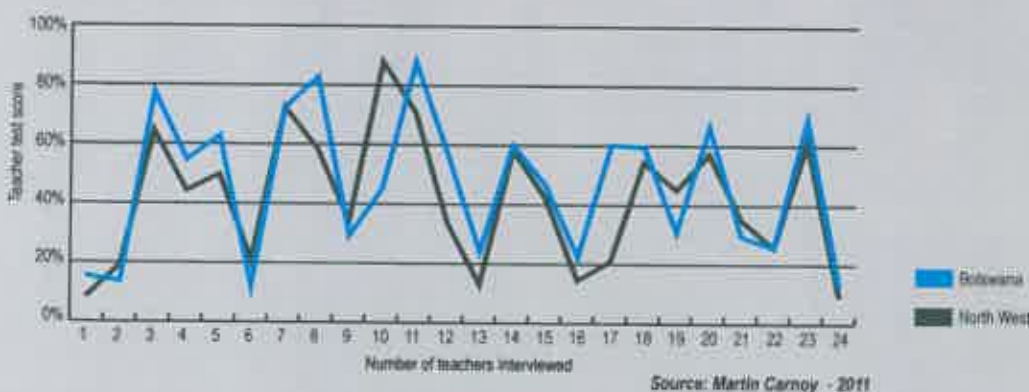


Figure 2: Results from questionnaires given to teachers



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WHAT WE FOUND

Our study found, as others have done, that learners and teachers do badly in their tests and that some areas are better taught, known and understood than others, but also that teachers do not spend nearly enough time teaching, and that the pace of work is very slow.

Teachers did not teach 60% of the scheduled lessons in North West and almost 40% of the lessons scheduled in Botswana. There was considerable variation in the number from classroom to classroom of lessons taught, but this very low average figure in North West province implies that students were not getting much exposure to mathematics during their Grade 6 year. They were getting more in Botswana, but much less than what they were supposed to.

We know and expect this, but what was surprising was that teachers and principals we interviewed did not consider teacher absenteeism a major issue. Even teachers who were actually present in school on a particular day may not teach their scheduled mathematics lessons for a host of other reasons. One of these, raised by many North West teachers, is the 'lack of confidence' teachers feel in teaching the required elements of the Grade 6 mathematics curriculum. In discussions, teachers attributed this lack of confidence to a lack of knowledge of the subject.

We learned through both our teacher questionnaires and our interviews that teachers in North West are often also pulled away from school by teacher in-service training and union meetings and in Botswana by departmental meetings. In a meeting with teachers to discuss our results we learned that in North West, many teachers 'bunk' maths classes because they feel grossly inadequately prepared to teach many parts of the required curriculum. The fact that this was the case in the midst of the President's campaign for teachers to be in class, on time, teaching, is disturbing.

The methodology we employ is innovative. The contexts we examine are varied. The results and findings continue to be a shocking wake-up call. But the most important contribution of our study is in the finding and conclusion about change.

HOW DO WE CHANGE?

In some sense, South African policy-makers have an easier task in that South African



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education is so inefficient and under-resourced in terms of teacher quality that the steps needed to reach Botswana's level of student achievement gains are more apparent. The changes that are required are not big bang changes: they are small changes across a range of areas. A number of small changes will make a big difference.

In our book we have shown what those steps are and the high payoff taking them would have for the vast majority of South African students. The steps may be evident, but taking them in the South African political and social context may be exceedingly difficult. They will require changing a now deeply ingrained culture of inefficiency in producing learner achievement.

Most schools in the South African educational system have, plainly and simply, organised themselves to produce something that is not student achievement. That suggests

that our recommendations, evident as they may be to most reformers, represent more than just showing teachers and principals how to improve their effectiveness — it may require changing the underlying school culture from one that places first priority on teacher autonomy to one that focuses much more clearly on making students academically competent.

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