


Education and training

Improved quality of, and equality in,
education





Improved quality of basic education is an important government priority. The research undertaken in this section responds largely to basic education improvement, with emphasis on understanding how contexts, policies and politics shape and distribute educational constraints and possibilities. It also assesses enhancing access for individuals to intermediate and high-level learning and skills acquisition.

Improved quality of education

Assessing how primary school teachers evaluate pupils

The focus

A study to explore how primary school teachers understand and apply the assessment of pupils in their classrooms, the type of assessments teachers apply, and whether assessments improved the children's ability to learn, provided valuable insights.

The study comprised observing 30 teachers from eight primary schools of varying socioeconomic statuses during literacy and numeracy lessons. The same 30 teachers were interviewed about their assessment practices; their beliefs around assessment; current assessment policy; teaching and learning; their own classroom management; available resources and further training needs. There were interviews too with parent-members of the school governing body, principals, department heads and some pupils, and a review of learning material. Some 115 teachers also answered questionnaires.

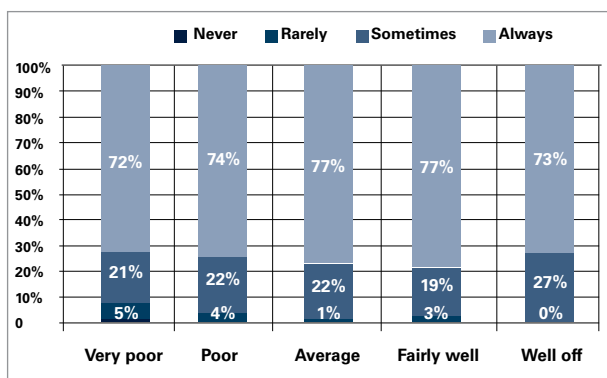
Findings

Teachers' evaluation was mainly based on tests, with major emphasis on the marks achieved. Feedback to learners consisted mostly of ticks, crosses and teachers' signatures. Verbal feedback from teachers seemed to be infrequent and mostly as a reaction to incorrect responses from learners.

There was a strong focus on lesson content and an apparent lack of emphasis on process, discussions or outcomes beyond the immediate lesson content. For data from the teacher questionnaire, there was much stronger support for teachers helping learners to understand the purposes of a lesson than for giving learners opportunities to determine their own learning objectives. Many more respondents indicated some degree of importance to learners being helped to plan the next steps in their learning, or being helped to understand assessment criteria, than said they actually practiced these in their classrooms.

As Figure 1 indicates, there were minimum differences in the teacher feedback practices, in the frequency of testing learners and in the type of assessment items used for testing between schools across the quintile rankings (quintile rankings provide an indication of the poverty ranking of a school, with Quintile 1 schools ranked as very poor and Quintile 5 ranked as well off).

Figure 1: Frequency of teacher feedback by quintile category



The bigger picture

About half the teachers found the current national policies on assessment unsatisfactory, which may well be of concern for national officials. Whether the policies were 'right' or 'wrong' is not necessarily the issue, but rather why the policies or aspects of policies were unsatisfactory.

Clearly the amount of time teachers devote to assessment and reporting, and the amount of associated paperwork, are concerns, as is the lack of

flexibility in these processes. But there are likely to be other issues which may be identified by appropriate research.

- Centre for Education Quality Improvement

Comparing teacher quality and student performance

The focus

In this study the HSRC and the School of Education at Stanford, in partnership with the University of KwaZulu-Natal and the University of Botswana, investigated the impact that school inputs made on gains in student learning; the differences in educational policies in these two neighbouring countries; and the role of such policies in shaping the quality of school inputs.

We are in the process of analysing the data and the quantitative analysis of the teacher questionnaires, as well as curriculum pacing and attendance records. The analysis will include video footage we took combined with student background data, social context of the classroom and students' academic year pre- and post-test results.

The bigger picture

This comparative study will assist in overcoming the limits of single-country educational policy research, namely that many key macro-educational policy variables – such as teacher recruitment, teacher training and school supervision – are fairly uniform within a nation, and certainly within a region. Botswana has with 'similar' socio-economic conditions, but significant differences in student performance and, possibly, educational policies.

The analysis should produce major insights into differences in classroom practices in different classroom contexts in Botswana's and South Africa's primary schools, and into the implications of those differences for variations in student learning.

- Education, Science and Skills Development

Review of school-funding policy

The focus

The national norms and standards for school funding (NSSF) require that funds are allocated to schools according to their poverty score. This was a key policy change implemented in 2006 to determine the funding for individual schools. The poverty score of each school assigns it to a quintile rank (Q1-Q5)

which, based on a pre-determined formula, governs the amount of funding the school receives.

A crucial step in determining school resource allocation is identifying the quintile rank, which is based on the poverty level of the community in which it is located. This has a profound effect on a school's budget. For example, in 2006 the allocation per learner in Q1 schools was R703 and R117 for learners in Q5 schools.

The findings

While the intention of the policy is commendable, critics believed the policy misclassified schools, giving them incorrect quintile scores. The result was that similarly poor learners were found in schools with different quintiles, since the poverty scores were based exclusively on the geographic area within which schools were located. This approach ignored the diverse nature of households and the composition of the schools' learners.

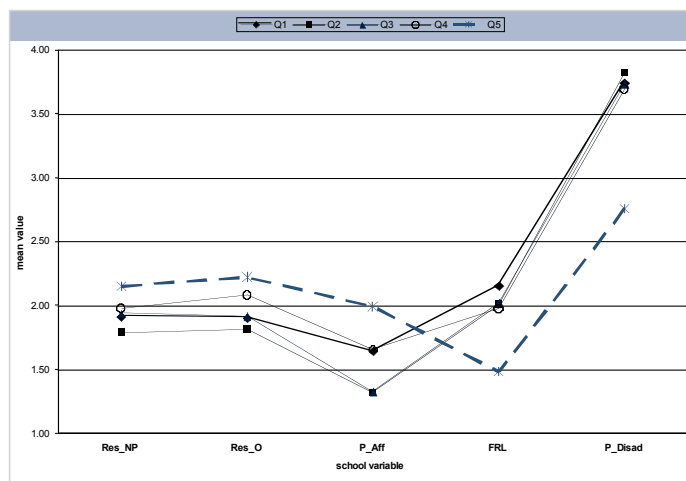
The primary data source was the 2006 application of the Progress in International Reading Literacy Study (PIRLS) 2006 database, available from the department of education. Appropriate school weights from the PIRLS data were used to generate nationally representative estimates. An extensive descriptive analysis of the data found that for every school background variable analysed, schools classified as Q5 were better off than schools in Q1. This meant that schools in Q1 that received more funding support than schools in Q5, were worse off in terms of school resources and school composition compared to schools in Q5.

However, this is not the complete story, as shown in Figure 2.

When we focused on Q2-Q4, we found that while the quintile system was able to identify schools at the absolute ends of the spectrum, the schools in the middle often looked similar and appeared better or worse in unexpected ways. Schools from Q1-Q4 were barely distinguishable in relation to mean proportion of disadvantaged learners in the school. With respect to average proportion of affluent learners, schools in Q1 were actually better off than schools in Q2.

Data about school resources and school composition revealed that those in the higher quintiles (Q2-Q4) may have resource needs as high as, or even higher than, in Q1.

Figure 2: Mean school characteristics by quintile ranking



Disad = disadvantaged learners Aff = affluent schools
Res = overall resources Resnp = non-personnel resources



This suggested that the quintile ranking system was misidentifying schools currently placed in Q2-Q4.

The bigger picture

The analysis indicates that the current quintile ranking system does not work effectively. The schools that are mostly disadvantaged are those assigned to the middle quintiles. Their needs are as great as, or greater than, those in Q1 but according to the current financing formula they receive less financial support. Differences in terms of a school's characteristics between Q2-Q4 and often between Q1-Q4 do not appear to be very large. This indicated that schools with very similar resource deprivation may be receiving widely differing amounts of financial assistance. While the difference in resource needs of schools in both these categories was arguably rather

small, under the current funding scheme schools in Q3 receive R194 less per learner than those in Q1.

In more than one instance we found that on average, a school in Q1 was better off on some indicators than a school in Q2. Looking at the average overall school resources available to schools, we found that those in Q2 had on average 1.82 units of resources. These schools received R64 less per learner compared to schools in Q1, although they are much worse off than schools in Q1.

In terms of population of learners served, we found that the Q2 schools, which received less money than those in Q1, served a greater proportion of disadvantaged learners and had fewer affluent learners than their Q1 counterparts.

This points to the urgent need for the regular reclassification of schools to ensure that those in greater need are allocated the correct quintile rank and thus qualify to receive sufficient levels of funding to meet their specific needs. Alternative approaches worth considering include calculating the quintile status of the school based on the composition of learners or on the availability and use of resources, creating only three poverty levels or some combination of these.

- Centre for Education Quality Improvement

Education, mobility and social progression

The focus

Birth to Twenty (Bt20) data is being used to explore learner mobility in the Johannesburg-Soweto area. In the context of a public schooling sector with highly variable levels of quality, many South African families are exercising what choices they have to improve their investment in their children's education by sending children to schools that are at some distance from their homes. This study looked at the distances that urban children, aged 7 and 13 years, travel on a daily basis to attend school.

The findings

Preliminary analysis revealed very high and similar levels of mobility at both ages. Only about 20% of children are attending the grade-appropriate school that is located closest to their home. Over one-third of children are travelling more than 3km to school on a daily basis, and almost 25% are travelling more than 5km to school.

	1997 (age 7)	2003 (age 13)
Proportion of children travelling over 1km	50.49%	56.75%
Proportion of children travelling over 3km	33.53%	33.96%
Proportion of children travelling over 5km	27.59%	28.96%
Proportion of children travelling over 10km	18.62%	18.66%

The bigger picture

These findings suggest that even the poorest families are making choices about the schools their children attend. It also shows the investments families are willing to make to ensure that their children have access to higher-quality educational opportunities than those available in their immediate neighbourhoods.

This finding is particularly relevant to policies governing the funding and governance of schools, because the assumption to date has been that primary school children are attending the school closest to where they live.

- Child, Youth, Family and Social Development

Teachers, equality and empowerment of girls

The focus

This study investigated the impact of gender equality policies and interventions on teachers' commitment to Millennium Development Goal number 3 (MDG 3). It addressed the question of the impact of gender equality policies and interventions on educators' perceptions; attitudes and beliefs about gender equality; and specifically, access to and participation in science and mathematics.

A total of 735 teachers from four provinces (Eastern Cape, Mpumalanga, KwaZulu-Natal, Gauteng) completed a survey that formed the basis of the study – a first in South Africa. The study aimed to identify implications and strategies for improving high school girls' access to, and success in, maths and science.

The bigger picture

The findings from the study suggested that a high number of participants were not aware of the policies governing gender equality in classrooms.

Furthermore, closer scrutiny of some of their responses suggested that gender stereotyping and potential discrimination was still rife among these teachers.

While some gains were made in terms of girls taking maths and science – especially in middle-class schools – in general, gender inequality in classrooms across the country was widespread. For example, girls continued to under-perform/under-achieve, and to be under-represented in maths. Even when teachers reported positive attitudes, they still identified lack of skills and resources as barriers to implementing gender-inclusive curricula in their classrooms.

Figure 3: Teachers' attitudes towards gender disparities in maths and science

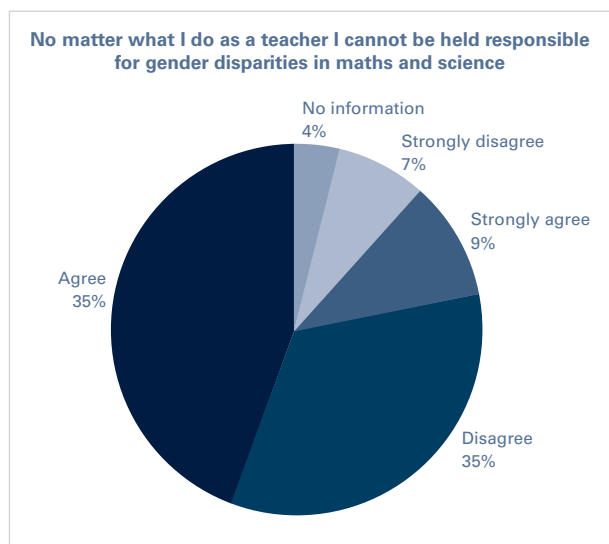
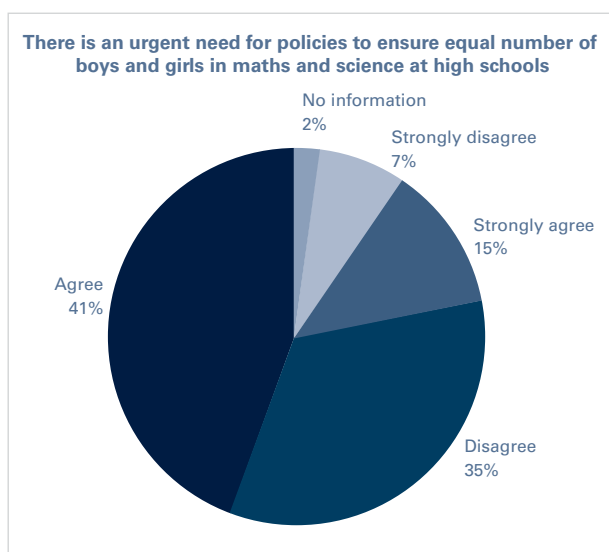


Figure 4: Teachers' attitude towards gender-inclusive policies for maths and science



- Policy Analysis and Capacity Enhancement

Extra classes = better marks, over time

The focus

The HSRC, Western Cape Department of Education and Shuttleworth Foundation worked together to study the performance of a group of grade 8 children after exposing them to an hour of extra tuition in maths and English each week, over a 20-week period from August to November 2007.

The aim was for participating learners to achieve 10 percentage points more in these subjects than a comparison group. Researchers believed that better performances in English and maths would eventually spill over into other areas of learning.

About 100 learners each from eight schools in the Metropole-South Education District, stretching from the Cape Flats to the small coastal towns on the peninsula, participated in the study. Four schools formed a control group, while the other four received the extra teaching after school (project schools).

The findings

Tested directly after completion of the sessions, the results were not encouraging. The effects of the extra classes were not as strong as anticipated and extra tuition seemed to have come too late for many learners. But one year later, in analysing the results of the same learners who had in the meantime completed grade 9, the news was more optimistic.

It seems as if the 18 months that passed since the start of the extra lessons brought clear benefits to project learners. This was especially true of those learners who had not missed more than three of the 20 sessions in grade 8.

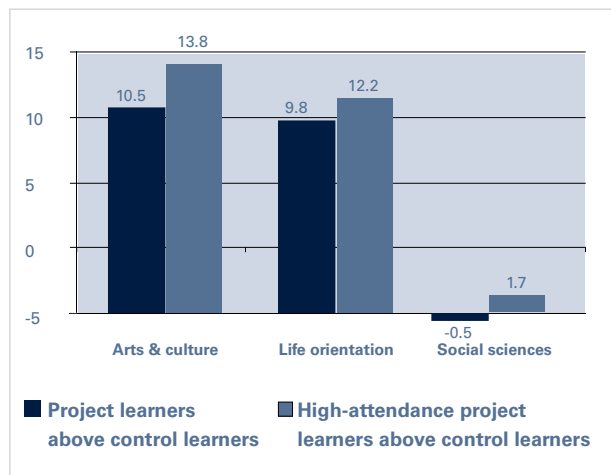
There was even better news: when comparing the year-end results of learners in the project group to those in the control group, the first group also showed widespread benefits across learning areas other than maths and English.

The bigger picture

This brings hope that one can still address one of the education system's biggest challenges by improving the performance of learners who are far below par at a later stage of schooling. Focusing on literacy and language development could bring enduring and widespread benefits across the curriculum. Such

focus should prevail from the foundation phase (grades R to 3), and extra tuition should kick in as soon as learners start falling behind in primary school (grades 4, 6, 7), but not later than early secondary school (grade 8).

Figure 5: Performance gain differences (in percentage points): grade 8 English to grade 9 text-based exit marks



Further and Higher Education

Student retention and graduate destination

The focus

Student attrition is a perennial theme within the South African higher education system. The HSRC initiated a research project to investigate more thoroughly why students dropped out, what led them to persist in higher education to graduation, and what made for a successful transition to the labour market. The findings of this project were published in a volume (Letseka, M., Cosser, M., Breier, M and Visser, M (2009) *Student Retention & Graduate Destination*), the chapters of which address these issues in relation to one or more of seven institutional case studies.

Among the key findings of the study were:

- Poverty – a feature of the student profile in a number of institutions – leads to both drop-out and stop-out. Apparent non-completers ‘drop out’ of higher education only to return to their studies after earning sufficient money to pay for them;
- The slow pace of institutional change has deleterious effects on student throughput;
- The tension between success and diversity may be mutually compromising for an institution;
- Discrimination persists in the labour market absorption of black graduates; and
- Race remains the most significant determinant of graduation and employment – though not of earnings in the labour market.



The bigger picture

The department of higher education and training has taken these findings into account in its revision of the National Student Financial Aid Scheme and in its development of guidelines for the social and academic transformation of universities.

- Education, Science and Skills Development

Studying ambitions

Waning ambitions to enter higher education

The focus

A study of 20 659 grade 12 learners in 362 schools in 2005 showed, among many other findings, that the majority planned to continue with their studies (72%), but only 3% of learners planned to study education. The low interest in studying education is of particular concern, from three perspectives:

- White learners were significantly keener to study education than black learners. There is a dire need for well-qualified teachers in rural areas, and white education graduates are unlikely to satisfy that need.
- The study shows a possible disjunction between graduation in education and uptake in the teaching profession, which has implications for faculties/schools of education whose aim is to produce teachers for the schooling system.

A study of 20 659 grade 12 learners showed that the majority planned to continue their studies (72%), but only 3% of learners planned to study education.

More emphasis would need to be placed on career guidance and screening to ensure that faculties/schools of education do not become transit stations for undecided students or an easy means to qualifications for employment in other fields. In this regard, the linking of the awarding of bursaries to service contracts, outlined in the National Policy Framework for Teacher Education and Development in South Africa, is to be welcomed.

- The majority of black learners indicated that they would prefer to qualify to teach in secondary schools or in special education rather than in primary schools. Were these preferences to be realised in enrolment decisions, there would be major implications for foundation phase teaching, especially in the mother tongue.

The bigger picture

What the low aspiration for enrolment in education programmes indicated, was that far more emphasis would need to be placed on recruiting aspirant students into such programmes at school and community levels. Teaching needs to be sold to learners. Ironically, however, it is unlikely to be bought by pupils who are themselves the products of inferior teaching role models. These self-perpetuating cycles point to the need for more research into what university faculties are doing in this regard, what they can do better and what kind of support is needed.

The full report, *Studying Ambitions*, can be downloaded for free or ordered from www.hsrcpress.ac.za

- *Education, Science and Skills Development*

Developmental role of universities

The focus

Two-and-a-half years of research, funded by the Canadian International Development Research Centre (IDRC), culminated in an international workshop on the developmental role of universities in the south.

The main aim was to develop a comparative book on the nature of university-firm interactions in the context of systems of innovation and human capabilities in two countries in Africa, Latin America and Asia.

A public seminar provided the opportunity for engagement with local higher education, and science and technology, researchers and policy-makers.

The bigger picture

This work has been extended to a new project, funded by the National Research Foundation and the department of science and technology, and will map the ways in which academics in different types of universities and disciplinary fields extend their scholarship to the mutual benefit of a wide range of external social partners, such as communities, local government and firms.

- *Education, Science and Skills Development*

An audit of Further Education and Training (FET) colleges

The focus

FET colleges are key institutions for intermediate skills development. With the migration of the FET college sector from provincial education departments to the national department of higher education and training (DHET), the national board for further education and training (NBFET) – a body advising the minister of higher education and training – commissioned the HSRC to undertake an audit at 50 colleges.

The project, undertaken in May 2010, involved site visits to the central campuses of the colleges to audit their governance, management and administration systems as well as to collect data on their student and staff profiles and their efficiency indicators.

The bigger picture

The results of the audit will contribute to a better understanding of whether colleges are in a position to operate under the DHET according to the defined autonomy model outlined in the FET College Act of 2006. They will also update the country on the size and shape of the FET college sector.

Growing our own timber: capacity development

The focus

The capacity development efforts involved a very busy internship programme, engaging 87 research trainees, 38 masters students, 35 doctoral students and 14 postdoctoral research fellows.

The past financial year implemented, for the first time, the 75:25% ratio between South African interns and non-South African African interns. Only in the category of doctoral candidates did we get close to

meeting the non-South African target by reaching 23%. Advertisements have been placed on the internet and in other media, and we expect to do better during the 2010/11 year.

In the reporting year, the dedicated capacity development unit, assisted by the Child, Youth, Family and Social Development (CYFSD), held 24 seminars and workshops on research topics. These covered areas such as mastering information resources; weeding 'the good from the bad'; and participatory research methods with children and young people, and the Statistical Package for Social Sciences (SPSS).

These include the following:

- a researcher training policy
- norms and standards for postdoctoral research fellows; and
- terms of reference for a capacity development applications review committee.

During this period the HSRC internship co-ordinators' forum and the applications review committee were established. An effective database management system was also developed, which was installed on the intranet and regularly updated.



The CYFSD played a large part in these seminars, running a lunchtime staff development seminar that was open to everyone in the organisation. Highlights included topics on research ethics, conducting literature reviews, the challenges of publishing, reviewing articles for journals, project management, participatory research methods, taking leadership, proposal writing and using theory in research.

In addition to these seminars, postdoctoral research fellows, doctoral interns and masters interns participated in peer-group sessions during which interns presented their work and were given valuable feedback.

The programme continued to grow and improve as management developed and approved a number of policies pertaining to research trainees.

Another milestone was compiling 'intern achievement' reports. Although we were unable to reach all the interns in the process, as some of them had left during the year, this was a very positive development.

The bigger picture

Capacity development at the HSRC is both a directive laid down in the Human Sciences Research Council Act, 2008, and when looking at the bigger picture, namely being proactive in meeting the research training needs of the organisation and the social science research community locally and elsewhere in Africa.

Overall, judging from the number and the quality of research outputs, it is obvious that the interns benefited from the research mentorship and training programmes.