



SDU Annual Report 2012

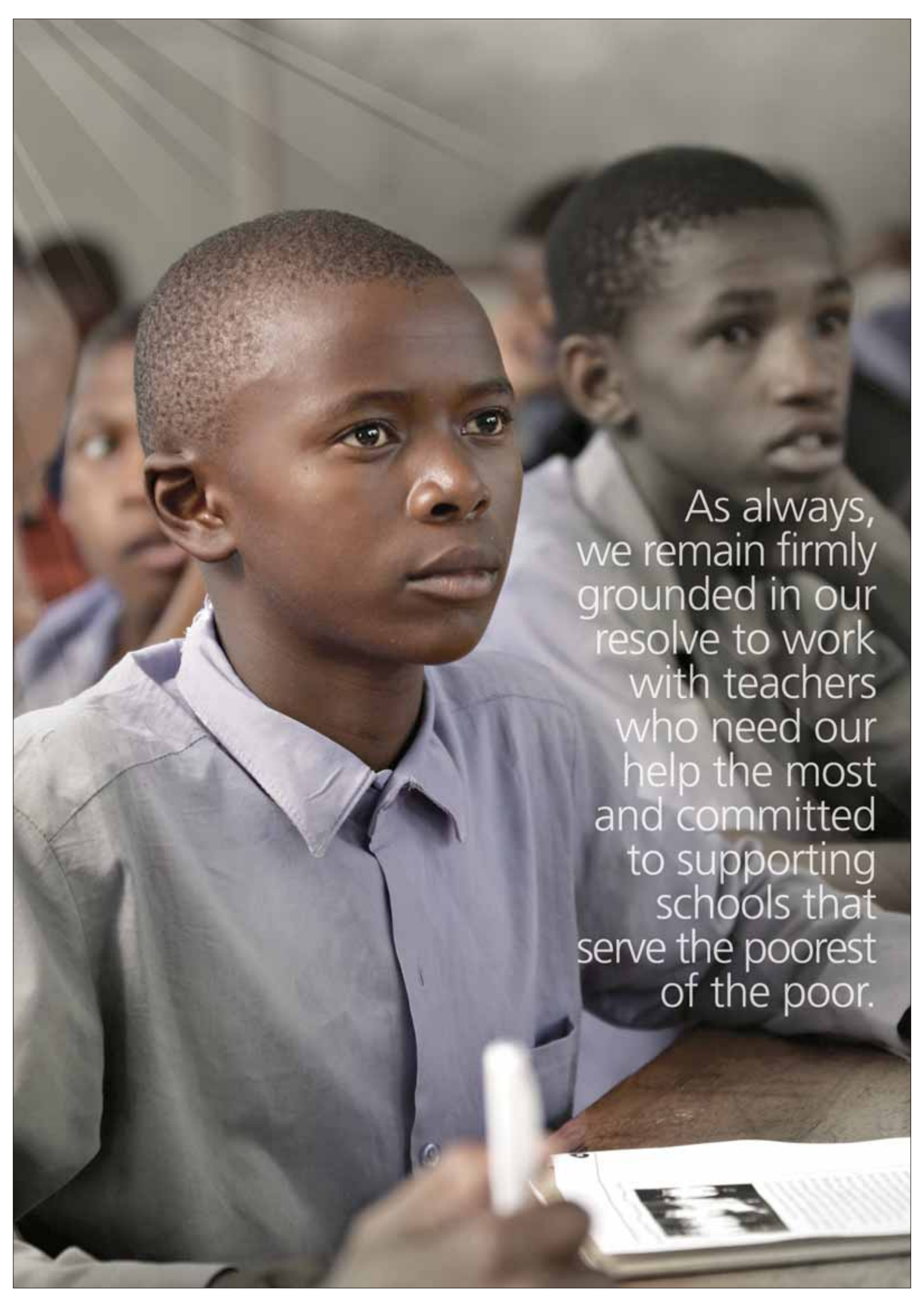


Changing schools **for good**



SDU
SCHOOLS DEVELOPMENT UNIT

Schools Development Unit
School of Education



As always,
we remain firmly
grounded in our
resolve to work
with teachers
who need our
help the most
and committed
to supporting
schools that
serve the poorest
of the poor.

SDU Annual Report 2012



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Director's Overview

Dr Jonathan Clark



The past year has, once again, seen the Schools Development Unit engaged in a wide range of activities which have brought us into contact with teachers and learners across all grades of the formal schooling system. As always, we remain firmly grounded in our resolve to work with teachers who need our help the most and committed to supporting schools that serve the poorest of the poor.

The legacy of apartheid education will be with us for many years to come, and we recognise that children living in poverty face multiple disadvantages including poor nutrition, inadequate health care, economic insecurity and material deprivation.

But poverty is a fact, not an excuse.

We need no reminding of the educational challenges we face. Although it is almost 20 years since the first democratic elections in South Africa, the quality of education in many South African classrooms remains inadequate. The performance in regional and international tests confirms the extent to which the majority of primary school children are unable to read, write and do maths at established norms or even within curriculum expectations. More worrying is that it is proving exceptionally difficult to close the huge achievement gap between advantaged and disadvantaged schools.

Yet, we hold true to the belief that what happens in schools can and does make a difference. We are encouraged by the mounting evidence from around the world that, in such circumstances, it is the teacher who has the single largest positive impact on schooling outcomes. That is why the SDU remains committed to helping teachers to teach better.

We do this work by addressing shortfalls in subject content knowledge and by building skills in appropriate pedagogies and methodologies of teaching. We are also well aware of the need to build the organisational skills of school managers. The twin pillars of our work are developing teacher professionalism and improving school organisation. We pride ourselves on our reach: From the iKwezi project's support for reception (Grade R) year teachers to MSEP's support for teachers preparing learners for their final Grade 12 exams.

The legacy of apartheid education will be with us for many years to come, and we recognise that children living in poverty face multiple disadvantages including poor nutrition, inadequate health care, economic insecurity and material deprivation.

The programmes and projects reported in our annual report provide ample evidence of our efforts. Our delivery model for improving the quality of teaching and learning in the classroom is a combination of university-accredited courses, backed by school-based support. This combination leads to tangible improvements in learner performance.

But there is more to the SDU. Since 2002, the unit has administered the Grades 3 and 6 systemic tests on behalf of the Western Cape Education Department. The scope of this work is truly impressive and testimony to the unit's capacity to take on large-scale testing tenders. Over a 14-day period in October, over 150 000 learners in 1 131 primary schools across the province wrote language and mathematics tests. Working in collaboration with Pearson Education Achievement Solutions, the organisation responsible for the Grade 9 component of the testing, the marking and data capturing of close to half a million scripts was completed within a month.

Another area of work we are justifiably proud of was the successful revision of our series of mathematics and mathematical literacy textbooks- Mathematics Solutions for All (Grades 1-9) and Mathematical Literacy Solutions for All (Grades 10-12) - published by Macmillan.

Following a rigorous selection process, all these books have been accepted onto the national textbook lists approved by the Department of Basic Education. We look forward to seeing them in use in classrooms across the country.

In the past year, the SDU has also been closely involved in the Schools Improvement Initiative (SII), one of four strategic initiatives spearheaded by UCT Vice-Chancellor, Dr Max Price. That the SDU director heads up the SII confirms the extent to which the unit is at the forefront of the university's efforts to have a positive and enduring impact on schooling in this country.

In closing, I would like to acknowledge that none of the successes of the SDU would be possible without the hard work and dedication of the entire team, from those providing administrative and financial services to the education specialists engaged in professional development in lecture halls and classrooms. We also acknowledge the support of our colleagues in the School of Education, the Faculty of Humanities and across the university, as well as that of our sponsors. Thank you one and all. Without your efforts and your generous donations, none of our work would be possible.



Role of the SDU

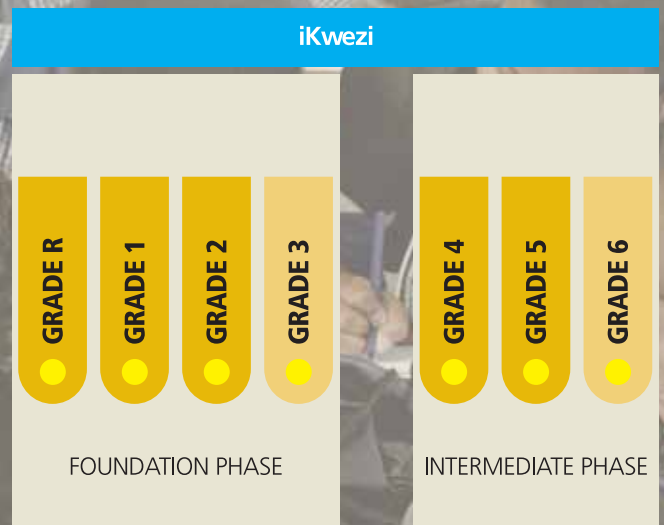


TEACHER PROFESSIONAL AND SCHOOL ORGANISATIONAL DEVELOPMENT

1

Professional qualifications: Advanced Certificates in Education (ACEs) and university-accredited Short Courses.

We provide opportunities for teachers to upgrade their qualifications and specialise through a range of Advanced Certificates in Education (ACE) and university-accredited Short Courses. The SDU offers school-based and subject specific support to teachers enrolled on these courses.



ASSESSMENT FOR LEARNING

3

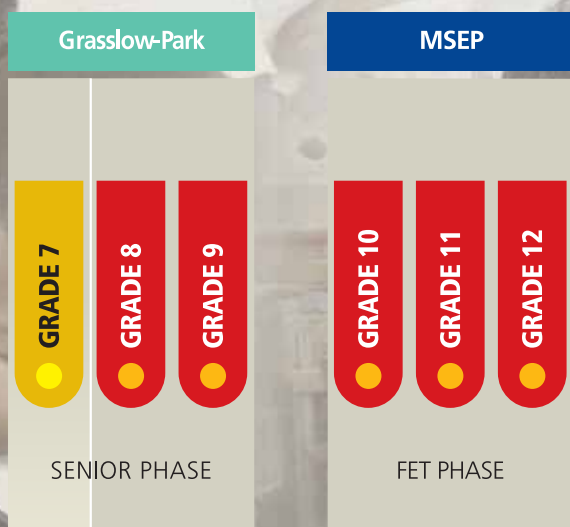
Provincial Grade 3 & 6 Language and Mathematics systemic testing.

For the past five years, the SDU has been the service provider responsible for the administering, marking and analysis of the annual Grade 3 and 6 Mathematics and Language systemic tests written in all primary schools in the Western Cape.

SCHOOL-BASED PROJECTS

iKwezi, Grasslow-Park and MSEP.

The SDU is engaged extensively in a range of school-based projects, both at the primary and secondary level. Our interventions are underpinned by the theory that building teacher efficacy lies at the heart of professional engagement. This needs to be undertaken alongside broader curriculum and organisational support to schools.



MATERIALS DEVELOPMENT

Mathematics and Mathematical Literacy textbook series.

Producing quality teaching and learning materials is a key component of the SDU's work. The best-selling school textbook series: 'Solutions for All Maths' (Grades 1-9) and 'Solutions for All Maths Literacy' (Grades 10-12) are published by Macmillan South Africa. These books are on the prescribed national textbook lists.



Staff at the SDU

SDU STAFF 2012



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Project manager
Schools Improvement
Initiative

School-based work

iKwezi 'Star' Project

Aim:	Improve teaching and learning in language and mathematics
Target Audience:	Grades R to 7
Area:	Lwandle, Mfuleni
Partners:	Metropole East Education District Metropole North Education District
Duration:	2010-2012
Funders:	DG Murray Trust, Hoskin Consolidated Investments and Metrofile

iKwezi is an early childhood development (ECD) and primary school improvement project that aims to improve teaching and learning in language and mathematics from Grades R to 7. The project operated in nine primary schools and their six feeder pre-schools in the Mfuleni and Lwandle areas of the Western Cape in partnership with Metropole North and Metropole East Education Districts from 2010 to 2012. Funding was provided by the DG Murray Trust, Hoskin Consolidated Investments (HCI) Foundation and Metrofile.

'Dream, hope, strive... for a brighter future, one school at a time'



Professional Development
iKwezi provided professional development to teachers through the Advanced Certificate in Education (ACE) and the Basic Concepts Programme (BCP).

The HCI Foundation offered bursaries to teachers from iKwezi to study for an ACE in Literacy, Numeracy and Curriculum Leadership in the foundation phase; or ACE in Language, Mathematics and Curriculum Leadership in the intermediate phase. Support included weekly lectures, tutorials and classroom observation and feedback sessions. Ten teachers graduated with Advanced Certificates in Education in 2012.

In the Basic Concepts Programme (BCP), teachers from feeder schools were provided with a structured and systematic teaching approach and tools to reflect on their own teaching. Teachers from both the primary and pre-schools attached to the project were enrolled in the program. This meant that these teachers were exposed to the same ideas and ensured that all Grade 1's starting at the project schools had similar school preparedness - making the teachers' job much simpler.

Twenty-four Grade R and eight Grade 1 teachers from eight schools and six ECD sites received certificates for the 11-session Basic Concepts Programme. Eight teachers received certificates for the Early Learning Resources Unit (ELRU) Literacy, Numeracy and Life Skills Grade R courses. An additional 18 teachers received certificates for the Literacy module and eight teachers received certificates for the Numeracy module.

Impact

This is a sustainable project that seeks to create long-term relations of support that will continue even after the project ends.

Teachers have voiced overwhelming support for the project:

'Comparing myself to four years ago with today, I would say I am a newly-born teacher because iKwezi made me another person in the past three years. I changed the way I think, teach, plan and talk to my learners.'
(Grade 1 Teacher)

'You know, what I really like... what pleases me so much at this point is to witness the growth in teachers' understanding of how the system works and what their (professional) responsibilities are.'
(ACE Teacher)

'A project like this should really run for five years minimum because it is only this year that it has really reached its optimal momentum... with everyone on board. A slow start is inevitable. It is also only at this stage that the real impact will become visible.'
(Grade 2 Teacher)

iKwezi underwent an evaluation by JCM Research and Evaluation at the end of 2012. The final external evaluation report stated that 'iKwezi worked out a near winning recipe for a model of teacher professionalization in a context of severe under-performance.'
(JCM Research and Evaluation, 2012:5).

iKwezi going forward

iKwezi aims to incorporate the recommendations of the external evaluation and include a specified number of schools within the Metropole East Education District for at least three to five years so that every teacher in a grade participates in the programmes.

Project teachers will have access to UCT-accredited short courses in language and mathematics with school-based support to ensure effective implementation into the classroom. In addition, the university offered teacher qualification (Advanced Certificate in Education) will be central to the intervention.

Funding is currently being sought for the second phase of the iKwezi project.

Project leader: Cally Kuhne

cally.kuhne@uct.ac.za

Project team: Tami Mhlati, Diane Hendricks, Louis Benjamin, Gary Powell and Kaashief Hassan

Funders: DG Murray Trust, The Hosken Consolidated Investments (HCI) Foundation and Metrofile



'You know, what I really like... what pleases me so much at this point is to witness the growth in teachers' understanding of how the system works and what their (professional) responsibilities are.' (ACE Teacher)



School-based work

Grasslow-Park 'Breaking down the fences'

Aim:	To increase the number of children taking mathematics in Grade 10 to matric
Target Audience:	31 working-class primary and high schools
Area:	Grassy Park, Lotus River and Wynberg areas of Cape Town
Partners:	Grasslow-Park Development Desk, SDU and UCT
Duration:	2012 - 2014
Funders:	Michael and Susan Dell Foundation
Focus areas:	Improving Grades 7, 8 and 9 Mathematics and Grade 7 Language

Grasslow Park is a school-based project in 31 working-class primary and high schools in Grassy Park, Lotus River and Wynberg in Cape Town. It was initiated by the Grasslow Development Desk, a school-based organisation, in collaboration with the SDU.



Funded by the Michael and Susan Dell Foundation, this project aims to improve learner performance in Grades 7, 8 and 9 so that the number of children taking mathematics in Grade 10 for Grade 12 increases.

Because learner performance depends on effective teaching, the project focuses on:

- Professional development through Advanced Certificate in Education (ACE) for General Education and Training (GET) mathematics and short courses in mathematics and language pedagogy for teachers.
- School-based support.
- Professional networks and exchange among teachers.

Professional Development

In 2012, 11 teachers successfully completed their first year of the ACE for GET Mathematics. Evaluations of the first year showed that teachers' conceptual understanding of mathematics and their classroom practice improved. An additional 13 teachers registered for the Advanced Certificate in Education in 2013. A total of 24 teachers will receive advanced training in teaching mathematics.

The SDU delivered five short courses in mathematics and language teaching in 2012 reaching 104 teachers. The mathematics courses were Engaging with Numbers, Algebra Content for the Classroom and Language for the Mathematics Classroom. The focus of all the courses was developing conceptual understanding and acquiring appropriate pedagogic strategies. The language courses were Developing Writing - Inspiring Learners to Write and Developing Writing - Inspiring Learners to Develop their Writing. The courses focused on writing for the real world, which led to improved language skills, creativity and understanding and provided ideas for the classroom.

Teacher Support

The SDU helped teachers put their learning into classroom practice. They conducted nine network meetings with principals and teachers on issues such as analysing and using data from systemic tests and using the internet as a resource for lesson ideas and worksheets.

Teacher-learning Communities

Building teacher-learning communities in which teachers talk and work together to improve teaching practice is key to the success of the project. This approach includes using online learning to increase teachers' knowledge. The project has developed a website for teachers with online resources and links to other teaching websites, as well as online sites where Grasslow teachers can communicate with each other.

Impact

To measure the impact of this project, the SDU conducted baseline tests of teachers' and learners' mathematics and language skills at the beginning of the project in 2012 and will do so in 2013 and 2014.

As part of this initiative, schools have also set their own performance targets for improving pass rates in mathematics and language. Monitoring and evaluating of this project also involves regular observations of teachers in classes and interviews with teachers, learners and principals. These findings will inform the work of future school-based improvement initiatives.

Project leader:

Anthea Roberts
Anthea.Roberts@uct.ac.za

Team members:

Heather Brookes, Sue Brundit,
Yusuf Johnson, Roger Mackay,
Selwyn Page, Nalini Parsotam
www.grasslowpark.uct.ac.za

Funder:

Michael and Susan Dell Foundation



School-based work

Maths and Science Education Project

Aim:	To improve the teaching of mathematics and the sciences in previously disadvantaged schools in order to increase the number of students from these schools entering into institutions of higher learning
Target Audience:	Five secondary schools
Area:	Western Cape
Partners:	SDU, WCED
Duration:	2009-2012
Funders:	Royal Kingdom of the Netherlands Embassy
Focus areas:	Improving teachers' content and pedagogic skills through providing scholarships for further study. Offering professional development through UCT certified short courses. Observing classroom practice and providing on-site support.

The Mathematics and Sciences Education Project (MSEP), funded by the Royal Kingdom of the Netherlands Embassy, was a joint collaboration between the Schools Development Unit at University of Cape Town and the Western Cape Education Department. The team worked in five high schools in the Western Cape between 2009 and 2012.

A major aim of the project was to improve the teaching of mathematics and the sciences in previously disadvantaged schools in order to increase the number of students from these schools entering into institutions of higher learning. To achieve this, the project team focused on improving teachers' content and pedagogic skills. They did this by providing scholarships for further study and offering professional development through UCT certified short courses. Observing classroom practice and providing on-site support over the four years also helped teacher development.

Outcomes

- 238 learners from the five schools gained entry into five institutions of higher learning between 2010 and 2013.
- 731 classroom observations were conducted in the five schools between 2010 and 2012.
- 1414 school-based engagements were conducted between 2009 and 2012.
- Over 25 academic papers and conference presentations were written and delivered.
- 11 teachers improved their formal qualifications between 2010 and 2012.

While MSEP focused on mathematics and sciences, it also included interventions in the areas of English First Additional Language (FAL), information and communications technology (ICT) integration, life skills and school management.

Mathematics

In 2012, the teacher intervention strategy focused on assisting teachers as well as interviewing teachers and examining Grade 10 learner books to assess CAPS implementation. Another focus was on the learner programme for Grade 12 learners. Three academic papers on the MSEP mathematics intervention were presented at the 20th Annual Meeting of the Southern African Association for Research in Mathematics, Science and Technology Education in Malawi in January 2012.





Science

The MSEP Science component for 2012 focused on school-based support for teachers, particularly with their implementation of the CAPS curriculum in Grade 10.

This support included overall departmental planning and moderation of assessment as well as co-teaching, curriculum support and the planning and implementation of practical work in the classroom. A number of short courses on the practical component of sciences was provided for teachers. A poster of this intervention was presented at the South Africa Basic Education Conference in Durban (2nd-4th April). Two papers on Education for Sustainable Development were presented, one at the South Africa Basic Education Conference and the other at Environmental Education Association of Southern Africa (EEASA) Conference at Rhodes University. Sixty-five learners from the MSEP schools attended the Science Expo at UCT in March.

English First Additional Language

The primary aim of the language intervention was to work closely with the Grade 10 First Additional Language English teachers to help them implement the new CAPS curriculum. In order to examine implementation, classroom lessons of two Grade 10 teachers in two schools were observed twice weekly between January and September. Grade 10 learner books were copied and examined, and teachers together with curriculum advisors were interviewed regarding their views on the implementation. Short courses on the effective teaching of reading as well as a week's course on effective teaching of writing were provided for MSEP teachers.

Information and Communications Technology Integration

The emphasis of the MSEP intervention in 2012 was to work alongside teachers to assist them to use technology. Teachers met with the education specialist to plan technology-rich lessons in mathematics, maths literacy, physical science and language. A short-course programme was rolled out to skill teachers in the pedagogical uses of technology. The following four short courses were provided: Internet Basics for Educators, Google Earth for Educators, Interactive Whiteboard for Mathematics and Web 2.0 Tools.

Life Skills

Sixty-five MSEP learners with intentions of furthering their studies at Higher Education Institutions (HEIs) participated in the MSEP learner programme. This focused on intensive revision in core academic subjects. It also provided learners with opportunities to acquire skills in preparation for tertiary studies. Workshops on HEI entry requirements as well as a workshop on *Researching your Options* were held for the MSEP learners. Learners also attended the UCT Open Day and 63 learners wrote the national benchmarking test for university entrance.

School Management

The school management intervention in 2012 sought to empower, support and strengthen school management teams. Of the seven MSEP bursaries awarded to school management members of the MSEP schools, four students graduated at the end of 2012 with an ACE in Educational Management and Leadership Development. One teacher resigned. Of the two remaining bursary recipients, one will complete the programme in 2013.

Project leader:

Dr Jonathan Clark and Associate Professor Rudi Laugksch

Team members:

Dr Jacqui Dornbrack, Dr Zain Davis, Associate Professor Anne Marie Hattingh, Mr Roger MacKay, Ms Janis Wylie, Ms Ferial Parker, Ms Marlene Esau, Ms Gillian Kay, Mr Kevin Sherman, Mr Andrew Petersen

Funder:

Royal Kingdom of the Netherlands Embassy

School-based Work

Education for Sustainable Development

Education for Sustainable Development (ESD) is a response to the Japanese call at the World Summit on Sustainable Development in 2002 and United Nations' resolution 57/254 to establish a 'Decade of Education for Sustainable Development.'

The aim of this project has been to integrate the principles, values and practices of sustainable development in approaches to education. The project is funded by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT). The International Christian University (ICU) and the Schools Development Unit (SDU) at the University of Cape Town embarked on the development of ESD for classrooms in South Africa and Japan.

The project involved three previously disadvantaged schools from South Africa and three schools from Japan. Over the past three years there were eight exchange visits between the two countries involving 20 teachers from these schools. Teachers were able to experience different styles of school management and cultures of learning. Teachers spent a week observing in schools and engaging in co-planning and teaching using the lesson study approach.

The lesson study model promotes ongoing teacher-led professional development. It has become one of the most successful ways of improving teaching practice in Japan and internationally. The Schools Development Unit through the ESD project has introduced this model to school and teacher improvement initiatives in the Western Cape.

Dissemination and Impact

As part of an initiative to integrate ESD into the curriculum and to promote lesson study which encourages teachers to reflect on their way of teaching, the Schools Development Unit held lesson demonstrations at primary schools. ICU and SDU teams have done an evaluation of the impact of their four-year module at the level of learners, teachers, schools and the education system. At the end of 2012, a symposium was held at the International Christian University in Mitaka in Tokyo to report back on the preliminary findings of this evaluation. The full report will be made available during 2013.

Future Developments

The SDU would like to expand this project in the following ways:

- Initiate professional learning communities both on-line and in-situ.
- Build capacity among teachers.
- Integrate ESD into schools using lesson study.
- Engage in a longitudinal study to monitor efficacy.

Project leader: Prof. Masifuma Nagao (Tokyo University)

Team members: Andrew Petersen (SDU), Prof. Julian Koe (ICU), Gillian Kay (SDU), Prof. Kazuo Kitahara (Tokyo University of Technology).

Contact person: Andrew Petersen Andrew.Petersen@uct.ac.za

Funder: MEXT



Professional Teacher Development

Advanced Certificate in Education



The Advanced Certificate in Education (ACE) is a certified two-year part-time teaching qualification aimed at promoting professional teacher development.

Our ACE certificates aim to improve both content knowledge and pedagogy. ACE students benefit from a school support programme that allows them to engage regularly in pedagogic critique and reflection with an education specialist from the Schools Development Unit (SDU).

The SDU implements a model for school improvement where at least three teachers from the same school enrol for the same ACE programme. These teachers support each other and their colleagues thereby creating a professional learning community within the school and a critical mass for positive change.

ACEs in 2012

One hundred and fifty-four students continued with their ACE studies during 2012.

66 teachers graduated with an ACE qualification at the end of 2012.

Stream	Number qualifying
HU027 - GET Mathematics	4
HU029 - GET Natural Sciences	24
HU039 - Literacy, Numeracy and Curriculum Leadership in the Foundation Phase	26
HU040 - Language, Mathematics and Curriculum Leadership in the Intermediate Phase	12

The following funders are acknowledged for their contribution in the form of teacher bursaries and funding course-related activities: Michael and Susan Dell Foundation, ABE Bailey Trust, ESKOM, Hoskins Consolidated Trust, ETDP SETA, and the DG Murray Trust.

Future developments - Advanced Certificate in Teaching

In response to the new national qualifications framework for teacher training, the SDU is in the process of replacing its existing ACE programmes with the Advanced Certificate in Teaching (ACT). These qualifications have a strong emphasis on developing teachers' content knowledge, an area of well-recognised need. We are intending to run the first ACT programmes in 2014. The following ACT courses have been registered:

- Senior Phase (Grades 7-9) Mathematics
- Senior Phase (Grades 7-9) Sciences
- Senior Phase (Grades 7-9) English First Additional Language

A further two courses will be registered in 2014, for delivery from 2015:

- Foundation Phase Numeracy and Literacy
- Intermediate Phase Mathematics and Language

In the interim, the SDU continues to provide opportunities for under-qualified teachers to upgrade their qualifications. To achieve this, the unit is actively pursuing private sector funding for a further round of ACE programmes in 2014/2015.



Professional Teacher Development Short Courses

Since its launch in 2007, the Schools Development Unit's short courses programme has provided an opportunity for teachers who want to improve their content knowledge and teaching methodology to engage in new exciting approaches to teaching their subjects.

A total of 800 teachers enrolled for 20 UCT-accredited professional teacher development short courses during 2012. Of these, 634 teachers completed the courses that they attended.

The following short courses were offered in 2012:

Information and Communications Technology

- Internet Basics for Educators
- Google Earth for Educators
- Interactive Whiteboard for Maths Teachers
- Web 2.0 for Teaching and Learning

Language

- Improving Teaching Reading in the Senior Phase
- Developing Writing: Inspiring Learners to Write
- Helping the Struggling Adolescent Reader
- Facilitating Effective Writing
- Quick Writes
- Teaching Reading and Writing in the Primary School
- Quick Writes - Further Development

Mathematics

- Engaging with Number for Senior Phase
- Rational Number for Intermediate Phase Teachers
- Basic Number Concept for Primary Teachers
- Algebra Content and the Classroom
- Language for the Mathematics Classroom

Sciences

- Practical Work for Life and Physical Sciences Teachers
- Practical Work for Physical Sciences Teachers
- Sustainability through Biodiversity for Further Education and Training Life Sciences Teachers
- Organic Chemistry for Further Education and Training Teachers

The duration of our courses ranges from six to 36 hours. While most courses are taught at the University of Cape Town, delivery can take place throughout the Western Cape and even in other provinces if the demand arises. Course descriptions and further details can be found on the Schools Development Unit website at www.sdu.uct.ac.za.



Teacher Enrichment Initiative

The Schools Development Unit serves the broader education community in the Western Cape through its Teacher Enrichment Initiative (TEI). This initiative comprises quarterly presentations on current education topics by educational experts.

The aims of the Teacher Enrichment Initiative are to:

- Present experienced teachers with fresh insights into current educational issues.
- Provide a forum for sharing ideas and engaging in healthy debate around pertinent educational issues.

The following presentations were held in 2012:

Using “Quick Writes” to engage learners: strategies and techniques for helping all learners engage in the writing process

Associate Professor Lori Assaf, Texas State University Writing Centre, USA.

Developing a statistically literate society: using statistics for meaningful evidence-based decision-making

Desiree Timmet, Maths4stats co-ordinator, Western Cape, Statistics SA and ex-maths teacher.

Create to innovate for all physical education teachers: Why we teach it, different ways to deliver it with limited resources and space and sharing good practice
Elizabeth Plummer, Newman University College, United Kingdom.

The right to learn

Professor Pam Christie, School of Education, University of Cape Town.



Professional Teacher Development

Assessment and Testing

Measuring educational performance through testing is an important part of monitoring learner performance. The data from systemic testing can be used by decision-makers to measure the impact of interventions and to inform further interventions and strategies.

In South Africa, the Western Cape Education Department (WCED) has an externally-administered systemic testing programme. This programme has been in place for a number of years monitoring gains in learner performance in the province.

The Schools Development Unit is playing a vital role in the implementation and administration of systemic testing in the Western Cape. Once again the Schools Development Unit, in collaboration with Pearson Education Achievement Solutions, was chosen as the service provider for the WCED Grades 3 and 6 systemic testing.

In 2012, systematic testing involved over 77 000 Grade 3 and Grade 6 learners respectively, a total of over 155 000 learners in over 1000 Western Cape Public schools. Testing in schools took place from 10th - 23rd October, 2012.

The SDU was successful in:

- Securing bulk printing, individualised packaging and distribution of over 150 000 language and mathematics tests for all Grades 3 and 6.
- Recruiting, contracting, training and managing 46 supervisors and 558 test administrators for the project.
- Verification of the CEMIS data with all schools to ensure correct data for printing, test administration and reporting. This verification was done in the Pearson call centre, and the results were captured into a custom-built information system.
- Developing an efficient testing schedule to ensure minimal disruption to schools and management of the test administration in all schools.
- Recruiting, contracting, training and managing all the markers for the project.
- Planning and executing an efficient and quality-focused marking and moderation process in a secure central marking venue. There were 17 chief markers, 42 senior markers and 332 markers across the two grades.
- Data capturing the results at item level into sophisticated software using the double pass method of data verification.
- Analysing the results and reporting on them to the province and the districts.
- Collaboration with the WCED's project team to ensure efficient communication and the meeting of customer requirements.

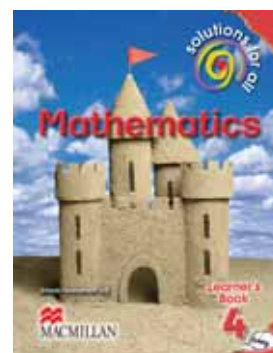
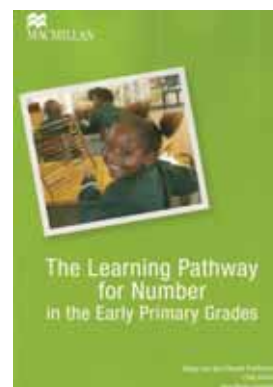
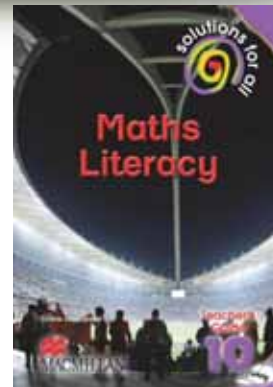


Materials Development

Developing high-quality teaching materials is essential for effective teaching and learning. The Schools Development Unit has been involved in conceptualising, developing and writing mathematics materials for schools since 2003 in all South African languages.

Our team of mathematics education specialists has produced 48 prescribed textbooks for the Department of Basic Education. The following table indicates the number of titles per grade. The number of titles relates to the number of languages in which the title was approved. Each title has the set of e-solutions available through the publisher, Macmillan.

Title	Grade	Learner Book	Learner Workbook	Teacher Guide
Solutions for All Mathematics	1	10	10	10
	2	10	10	10
	3	10	10	10
	4	2		2
	5	2		2
	6	2		2
	7	2		2
	8	2		2
	9	2		2
Solutions for All Maths Literacy	10	2		2
	11	2		2
	12	2		2



The unit is also adapting and developing these educational materials for online learning. The Schools Development Unit has made the development of e-learning materials and online learning a major focus for improving education in South Africa.

The SDU also produced the Learning Pathway for Number (LPN) in 2012. This is a Gr R – 4 Mathematics book that was published by MacMillan and funded by South Africa-Netherlands Research Programme on Alternatives in Development (SANPAD). The LPN gives an overview of learners' growth in understanding of whole numbers in the early primary grades. The LPN aims to support teachers in implementing the Mathematics curriculum in their classrooms.

Schools Improvement Initiative

One of the University of Cape Town's strategic goals is to contribute to South Africa's development. In November 2011, the director of the Schools Development Unit (SDU) was asked to head up the Schools Improvement Initiative (SII), one of the four key institution-wide initiatives set up to address critical social challenges in this country.

(See: www.uct.ac.za/about/initiatives/overview)

The main purpose of the SII is to forge links and develop collaborations with education-related groupings within and outside of the university, with particular focus given to those working in Khayelitsha - a sprawling township within the Cape Town Metropole.

The SII was officially launched at the Centre of Science and Technology (COSAT) in Khayelitsha on 28 May 2012. At this event the provincial MEC for education, Mr Donald Grant, confirmed the status of the initiative as a strategic partner with the Western Cape Education Department (WCED).

The school-based work of the SII supports the efforts of the WCED to operationalise its objectives at a district level. The key focus of the SII's work in schools is teacher professional development and school organisational development. This is achieved by working in close collaboration with Metropole East Education District (MEED) officials responsible for supporting schools in Khayelitsha.

The SII's engagement is based on a university-school partnership model which involves six schools to date. By the end of 2012, two primary schools (Intshayelelo and Ummangaliso), and two secondary schools (Matthew Goniwe and COSAT) were designated UCT Partner Schools. A further two primary schools (Sivuyiseni and Ikwezi Lesizwe) were scheduled for inclusion in 2013. As SII partner schools, these six schools receive support by the SII both at the level of teacher professional development and school organisational development, whilst at the same time offering themselves as teaching practice sites for UCT student teachers in the School of Education. The establishment of the SII schools as 'professional practice schools' is an important objective of the SII.

The Edulab consultative forum, which preceded the launch of the SII, continues to bring together those from across the university who have an interest and involvement in school improvement activities. During the course of 2012, three seminars were held where broader education-related matters were discussed. The SII director also presented a progress report on the SII at the university's Social Responsiveness Symposium on 21st November, 2012.

For more information on the SII, see www.sii.uct.ac.za



100-UP Programme

One of the key objectives of the SII is university recruitment. With monies provided by the Vice-Chancellor's Strategic Fund, the 100-UP programme was initiated in 2011 in order to address the under-representation of Khayelitsha learners at the University of Cape Town. At the beginning of that year, 100 academically-gifted Grade 10 learners were chosen to participate in the three-year programme.

A second group of Grade 10's was recruited at the beginning of 2012, bringing the total number of learners involved in 100-UP to 200.

The programme enables learners to acquire skills and experiences in preparation for tertiary studies in all faculties at UCT. In addition to a July on-campus residential camp, there were a number of Saturday enrichment activities run in conjunction with a range of units and departments from across the university during the course of the year.

Learners were also provided with a significant level of academic support. The Grade 10 Saturday tutoring programme was run at Luhlaza in Khayelitsha. Homework support was provided in mathematics, physical sciences and/or accounting and English First Additional Language (FAL). The Grade 11's benefitted from a 22-session Grade 11 Saturday school programme run by SHAWCO. Sessions ran for a maximum of four hours. All the tutors were highly-experienced practising school teachers.

Both groups of learners participated in a second residential camp held in the third term school holidays at the Cape Academy in Tokai. The main focus of the camp was academic support, but opportunities to acquire skills and experiences in preparation for tertiary studies were also provided in the study skills and techniques and confidence-building sessions.

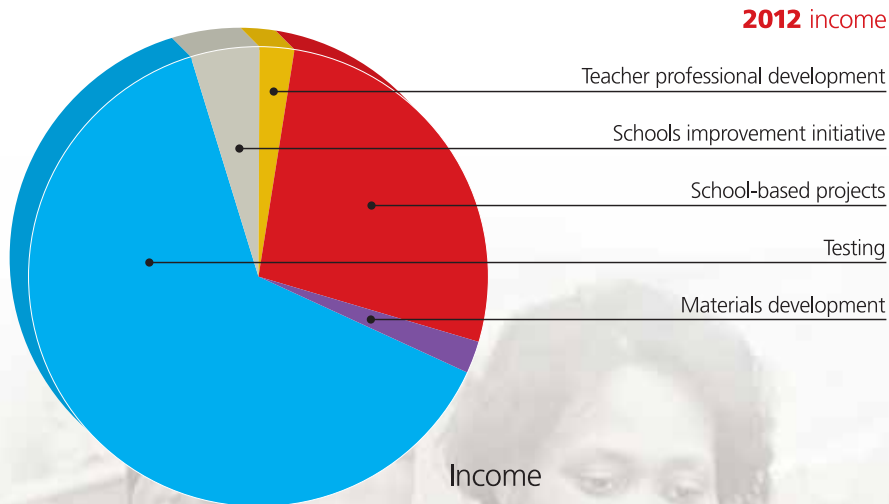
100-UP facilitated the participation of more than 500 learners from 13 Khayelitsha secondary schools in the UCT mathematics competition held on 16th April 2012.

Given the educational environment where the 100-UP learners are drawn from and its commitment to involving participants from all schools in the township, it is inevitable that the programme will come face-to-face with the reality of education in the township. Sadly, the patterns of failure, which find final expression in the low levels of achievement in most schools' poor matric performance, are already evident from Grade 10.

On a positive note, as the programme continues it has become increasingly apparent that given an adequate level of external stimulus, support and encouragement, learners can step out and up. Exposure to UCT provides them with an invaluable opportunity to imagine for themselves a future beyond the constraints of their present-day township lives.



Budget Matters



Income

The SDU's overall operating budget for the year amounted to just over R27 million.

The direct operating costs of the Unit, including staff salaries and office overheads came to just over R9 million in 2012. The remaining money was spent on the various projects. As before, large-scale Grades 3 and 6 testing exercise undertaken on behalf of the Western Cape Education Department, accounted for almost two-thirds of the total operational spend of the SDU in 2012.

The SDU is most grateful to the following funders who have supported us financially over the past year:

TESTING work	Western Cape Education Department
ACE courses	Eskom; Abe Bailey Trust; HCI Foundation; EDTP SETA
Short Courses	Albert Wessels Trust
Ikwezi project	DG Murray Trust; Metrofile
MSEP	The Royal Kingdom of the Netherlands Embassy
Royalties	Macmillan
100-UP	UCT Vice Chancellor's Strategic Fund; The Stella and Paul Louwenstein Educational Trust
Grasslow-Park	The Michael and Susan Dell Foundation

As a part of the School of Education within the Graduate School of Humanities, the SDU would also like to acknowledge the role which UCT plays in supporting the unit financially. Two posts - the Director and Finance Officer - are fully funded by the University.

Conferences and Publications

Brookes, H. and Owendale, A. (2012). The nature and role of teachers' gestures in first grade mathematics classes: A cross cultural comparative study. International Society for Gesture Studies Conference, 24-27 July, Lund University, Sweden.

Brookes, H. (2012). Social interaction and touch in gestural development: The acquisition of the 'thumbs-up' gesture among South African children. International Society for Gesture Studies Conference, 24-27 July, Lund University, Sweden.

Brookes, H.J. (2012). Communicative practices among urban black male youth in a Johannesburg township. Paper presented at the Sociolinguistics Symposium 19, 21-24 August, Free University, Berlin, Germany.

Brookes, H.J. (2012). Gestural styles and identity among urban black male youth in a Johannesburg township. Paper presented at the Sociolinguistics Symposium 19, 21-24 August, Free University, Berlin, Germany.

Davis, Z. (2012). A discussion of references to cancellation in the mathematical work of a grade 10 student. In: Nieuwoudt, S., Laubscher, D. and Dreyer, H. (Eds.) *Proceedings of the 18th National Congress of the Association for Mathematical Education of South Africa (AMESA)*, University of the North-West, Potchefstroom, 25-28 June, pp. 100-107.

Davis, Z. and Gripper, D. (2012). An investigation of the use of the notion of equality in the mathematical activity of two groups of grade ten students. In: Nampota, D. and Kazima, M. (Eds.) *Proceedings of the twentieth annual meeting of the Southern African Association for Research in Mathematics, Science and Technology Education, Volume 1: Long Papers*, 16-19 January, University of Malawi, Cross Roads Hotel, Lilongwe Malawi, pp. 51-63.

Davis, Z. and Gripper, D. (2012). A few remarks on the teaching of inequalities to grade ten students. In: Nieuwoudt, S., Laubscher, D. and Dreyer, H. (Eds.) *Proceedings of the 18th National Congress of the Association for Mathematical Education of South Africa (AMESA)*, University of the North-West, Potchefstroom, 25-28 June 2012, pp. 157-168.

Dornbrack, J. and Clark, J. (2012). The maths and sciences education project. Paper presented at the South Africa Basic Education Conference, 2-4 April, Durban.

Jaffer, S. (2012). The notion of 'topic' in school mathematics and the problem of isotopic coherence. In: Nieuwoudt, S., Laubscher, D. and Dreyer, H. (Eds.) *Proceedings of the 18th National Congress of the Association for Mathematical Education of South Africa (AMESA)*, University of the North-West, Potchefstroom, 25-28 June, pp. 178-185.

Jaffer, S. and Davis, Z. (2012). Investigating the relation between top-performing Grade 10 students' elaborations of school mathematics and their social class membership. In: Nampota, D. and Kazima, M. (Eds.) *Proceedings of the twentieth annual meeting of the Southern African Association for Research in Mathematics, Science and Technology Education, Volume 1: Long Papers*, 16-19 January 2012, University of Malawi, Cross Roads Hotel, Lilongwe Malawi, pp. 105-118.

Kay, G. (2012). Pedagogical content knowledge for practical work: The development and validation of an analytical tool SAARMSTE, 16-19 January, University of Malawi, Malawi.

Kay, G. (2012). Teacher development strategy for improving science practical work. Poster presented at the South Africa Basic Education Conference, 2-4 April, Durban.

Conferences and Publications



Kunene, R. and Brookes, H. (2012). The impact of gender on gestural behaviour in oral narratives and spontaneous conversations. Paper presented at the Sociolinguistics Symposium 19, 21-24 August, Free University, Berlin, Germany.

Mackay, R. (2012). A further exploration of differences in the performance of grade 12 pupils on two types of geometry problem. In: Nieuwoudt, S., Laubscher, D. and Dreyer, H. (Eds.) *Proceedings of the 18th National Congress of the Association for Mathematical Education of South Africa (AMESA)*, University of the North-West, Potchefstroom, 25-28 June, pp. 231-239.

Matobako, S. (2012). Forms of social solidarity and teachers' evaluations of students' acquisition of criteria for the reproduction of school mathematics. In: Nampota, D. and Kazima, M. (Eds.) *Proceedings of the twentieth annual meeting of the Southern African Association for Research in Mathematics, Science and Technology Education, Volume 1: Long Papers*, 16 - 19 January, University of Malawi, Cross Roads Hotel, Lilongwe Malawi, pp. 157-170.

Petersen, A., Nagao, M. and Koe, J. (2012). South African and teachers' experience of engaging in international team teaching for Education for Sustainable Development (ESD). Paper presented at the Environmental Education Association of Southern Africa Conference, 11-14 September, Rhodes University, Grahamstown.

Roath, E. (2012). HIV and the curriculum. Paper presented at the HIV and Education Symposium, 26-27 March, University of the Western Cape, School of Public Health and HIV Centre.

Roath, E. (2012). Religion education and Life Orientation: a match made in heaven? Paper presented at Religion Education in the Western Cape seminar, 15 September, Department of Religious Studies, University of Cape Town.

Silbert, P. (2012). Smacking puts you in the right direction: Corporal punishment as a disciplinary mechanism in the construction of the ideal learner in a working class South African school. Paper presented at the Discourse, Power and Resistance Conference, 2-4 April, Plymouth University, Plymouth, UK.

Silbert, P. (2012). Docility and resistance: Corporal punishment as a disciplinary mechanism in the construction of the "ideal" learner in South Africa. Paper presented at the EMASA (Educational Management Association of South Africa) 2012 International Conference, 27-29 July, University of Kwazulu-Natal, Durban.

Van den Heuvel-Panhuizen, M., Kühne, C. and Lombard, A.P. (2012). *The Learning Pathway for Number in the Early Primary Grades*, MacMillan, Gauteng, South Africa.

A young woman with short dark hair, wearing a dark school jacket with a crest on the left chest, is seated at a desk. Her right hand is raised high in the air. She is looking towards the left of the frame. In the background, other students in similar uniforms are visible, some with their hands raised. The setting appears to be a classroom or lecture hall.

We also acknowledge the support of our colleagues in the School of Education, the Faculty of Humanities and across the university, as well as that of our sponsors. Thank you one and all. Without your efforts and your generous donations, none of our work would be possible.

