



Schools Development Unit

Annual Report 2009

09

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SDU Schools Development Unit

2009
Report

Annual Report

Changing schools **for good**



Schools Development Unit
School of Education

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Chairperson's foreword

We have been publishing annual reports in the Schools Development Unit (SDU) for the last six years to explain what we do. As this report shows, the SDU, as one of the largest school improvement agencies in the country, is involved in a range of fascinating activities that grapple with the challenges facing education in South Africa today—striving to understand them and to search for sustainable solutions against a complex backdrop of contributing factors and contexts. The comprehensive set of activities the SDU has been engaged in during 2009 encompasses continuous professional development (CPD), school-based work, and systemic testing.

In our CPD work, almost 400 teachers participated in seven offerings of the Advanced Certificate in Education (ACE) in collaboration with colleagues from the School of Education. The scale of the task—and the great responsibility that accompanies it—is apparent when one realises that the ACE programme is probably the face of UCT and the School of Education in our schools! It is also most gratifying to see how much potential our short course programme has shown, despite the funding challenges it faces in the absence of a finalised Continuous Professional Development system for teachers.

Our school-based work has also shown much promise. The Rural Education Project (REP) has demonstrated a range of sustainable strategies to assist schools in identifying and addressing contextual and professional factors related to poor performance. Although the REP came to an end in 2009, the iKwezi project commenced late in the year with funding from the DG Murray Trust, and will support the inclusive education policy and the Foundations for Learning programmes of the national and provincial education department. Watch this space! Our work in high schools with the Mathematics and Science Education Project (MSEP) continues alongside colleagues from the School of Education, and is starting to highlight the many contextual challenges that shape teachers' work and functioning in the classroom.

Our work in systemic testing in the Western Cape included Grade 9 for the first time, in addition to previous work carried out at Grade 3 and 6 levels. These activities have again highlighted the importance of the logistical and analytic capacity of the SDU in the Western Cape and the rest of South Africa. Given the need for evidence-based accountability measures and problem diagnosis, the work of the SDU provides many important insights and possible intervention strategies.

Lastly, we offer our thanks to all who have contributed to our successes and helped us in 2009: the Director, Dr Jonathan Clark; our staff; colleagues in the School of Education and wider university community; our partners in the Western Cape Education Department; and—most importantly—our funders.

Rudi Laugksch
Chair of SDU Board



Rudi Laugksch

Director's overview

It is widely acknowledged that our education system remains in deep crisis. Aside from ongoing infrastructural shortfalls, as reflected in the unacceptable state of many of our schools, we still have to contend with broader systemic failures: inadequate curriculum, poor pedagogy and an absence of organizational support, exacerbated by the heavy burden of poverty that is carried by fractured communities.

At the SDU, we believe our efforts should be focused primarily on improving the quality of our teachers. Put more simply, we need to help teachers teach better. A priority is to address shortfalls in teachers' subject content knowledge, and to assist them in developing a new, more effective repertoire of methodology and teaching practice. In our view, the SDU has a critical role to play.

It is against this backdrop that I offer a summary of the work of the SDU during 2009.

Advanced Certificate in Education (ACE)

With the assistance of colleagues in the School of Education, we were able to deliver courses of a consistently high academic standard in seven individual programmes. The year 2009 saw 116 teachers complete Advanced Certificate in Education (ACE) courses offered here at the SDU.

We also piloted a writing skills course in the second semester targeted at students identified by their lecturers as in need of support. The intention is to ultimately integrate this course, focusing on academic literacy skills, into each ACE programme in 2010.

Short courses extended countrywide

An exciting development was the delivery of a short course to mathematics literacy curriculum advisors in the Free State Education Department. The SDU also extended its work to other parts of the country, delivering two established courses (Transformations and Financial Mathematics) to teachers in Mpumalanga.

Projects wrapped up

The Rural Education Project (REP), a five-year initiative focusing on challenges in rural primary schooling, drew to a close. As reported in 2008, a significant development was the enrolment of teachers in this project in the curriculum leadership ACE. This model, which couples university-based courses with follow-up classroom support, was extended to other ACE programmes in 2009 with funding from the Western Cape Education Department (WCED).

The ZENEX English First Additional Language Support Programme also concluded. With the focus shifting to working with "willing teachers in willing schools", SDU field workers worked with a smaller group of Grade 10 and 11 teachers in the final phase of this two-year programme.

Mathematics and Science Education Project (MSEP) update

A substantial donation from the Royal Netherlands Embassy allowed MSEP to resume full operations in 2009. The project has been repositioned, with the enhancing of teacher efficacy at the heart of its activities. Working alongside colleagues in the School of Education, various school-based interventions are underpinned by a firm commitment to research. Thus, the work of MSEP will not only have a positive impact on the teaching and learning of mathematics and the sciences in the five Dinaledi schools, but will also contribute significantly on an academic level to research in these areas.



Dr Jonathan Clark

Director's overview: continued

Large-scale systemic testing

During 2009, the second round of Grade 9 testing in Languages and Mathematics was successfully completed, with the learner certificates and individual and school reports issued to approximately 65,000 learners across the province. Our collaboration with the University of Pretoria's Centre for Evaluation and Assessment helped us to gain valuable experience in all aspects of setting and validating tests.

The SDU was again awarded the contract to run the Literacy and Numeracy tests in Western Cape primary schools. In November more than 80,000 Grade 6 learners in approximately 1,100 primary schools were tested.

Additional activities and new projects

Education for Sustainable Development is a two-year project working in collaboration with the International Christian University in Tokyo, Japan.

The Teacher Enrichment Initiative (TEI) was launched in 2009. These once-off presentations cover relevant education topics not included in our courses. They are aimed at enabling educators to engage with academics and providing a platform for debate.

The Post Graduate Certificate in Education (PGCE) saw SDU staff participating in teaching some of these method courses run by the School of Education. Engaging with pre-service teachers provided staff with an opportunity to share their extensive experience of working at the "chalk face".

iKwezi, an early childhood development and primary school support and development project, has secured funds for three years. These interventions will focus on isiXhosa mother-tongue instruction and the raising of standards of Literacy and Numeracy specifically in Grades R and 1. This exciting project will see the unit working collaboratively both within and beyond UCT.

Other activities included materials development in the subject of Life Sciences, and laboratory management workshops.

Financial stability

On the administrative and financial side, 2009 saw a continuation of the gains made in the previous year. I am happy to report that the SDU is now functioning efficiently and effectively within the university's systems and procedures. With the unit being largely self-funding, the pressure to maintain financial stability is an ongoing challenge. Nevertheless, we ended the year on a sound financial footing, with sufficient funds and guarantees of work for the year to come. We owe all our funders a large vote of thanks. Without them, the work we do would not be possible.

Staff matters

Towards the end of the year, the SDU staff participated in a day-long workshop at which a social contract was drawn up and agreed upon. In broad terms, the contract describes the modus operandi of the unit and reflects our desire to continually improve our work.

This year we also took leave of Achmat Adams, a long-serving staff member. Over the 10 years he worked at UCT he served the institution with distinction and we wish him well for the future. Two other staffers, JC Fortuin and Lude Galo, also moved on after being with us for a number of years. They too will be missed.

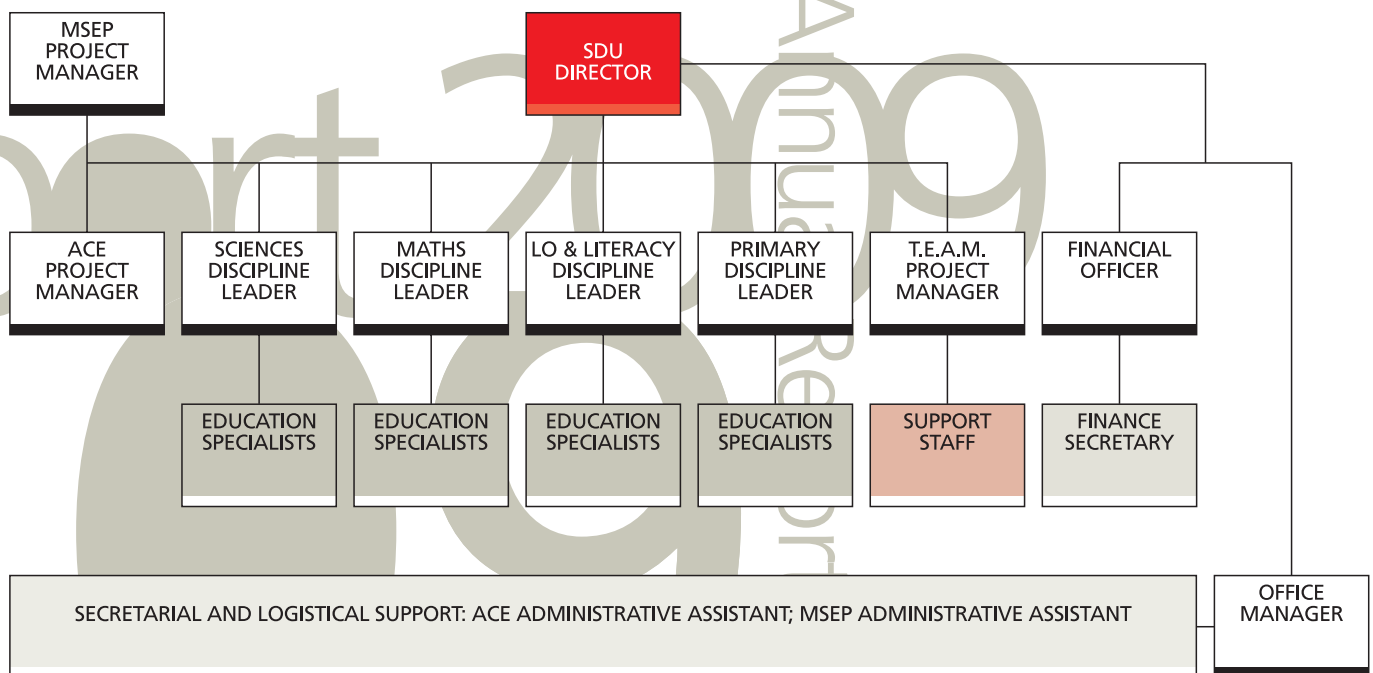
Finally, I must thank the staff at SDU for their ongoing dedication to what is essentially a national cause. When it comes to fixing the ills of our education system there is no magic bullet but hard work and dedication—something the SDU is wholeheartedly committed to.

SDU operational structure

One of the strengths of the SDU is its capacity to work across all phases of schooling—from the Reception year to Grade 12.

To best utilise the range of generalist and specialist expertise available in the Unit, the professional staff are organised into a number of discipline areas.

In operational terms, the SDU functions as a matrix structure with a high-level of co-operation and co-ordination of staff within flexible and adaptive project teams. They are supported in their work by an administrative team which is fully integrated into the university's broader financial and human resources (HR) systems.



Staff at the SDU





07

01 Sandra Adams
Finance officer

02 Wadeah Fisher
Courses administrator

03 Janine Rich
Finance secretary

04 Gail September
Office manager

05 Jonathan Clark
SDU director

06 Achmat Adams
Life orientation discipline leader

07 Ferial Parker
Life skills education specialist

08 Marlene Esau
Language education specialist

09 Thembeqa Mqambeli
Language education specialist

10 Nalini Parsotam
Language education specialist

11 Kaashief Hassan
Mathematics education specialist

12 Yusuf Johnson
Mathematics education specialist

13 Roger Mackay
Mathematics education specialist

14 Gary Powell
ACE project manager

15 Anthea Roberts
Mathematics discipline leader

16 Emmanuel Mushayikwa
MSEP project manager

17 Diane Hendricks
Mathematics education specialist

18 Cally Kuhne
Primary discipline leader

19 Tami Mhlati
Education specialist

20 Norman Davies
Science discipline leader

21 Gilbert Dolo
Science education specialist

22 Nomvuyo Mgoqi
Science education specialist

23 Andrew Petersen
Science education specialist

24 Hayley Eysen
Administrative research assistant

25 Cynthia Fakudze
Testing project manager

26 JC Fortuin
Administrative research assistant

27 Lude Galo
Administrative research assistant

28 Owen Kiewietz
Administrative research assistant



14



21



28

SDU
staff



School-based work

The Mathematics and Science Education Project (MSEP)

MSEP is a collaborative project between the SDU, the WCED, and various UCT departments, designed to help develop a model for high-quality mathematics and science learning and teaching.

Funding is generously provided by the **Embassy of the Kingdom of the Netherlands** through the SEEDS consortium.

The project's ultimate aim is to encourage more learners from disadvantaged communities to enroll and succeed in science and technology university programmes. This is implemented by means of:

- Supporting better quality maths and science education in traditionally disadvantaged schools in order to instill interest and improve performance.
- Developing and implementing professional development programmes for in-service teachers in maths, science, and life skills.
- Promoting science, technology, engineering and mathematics (STEM) awareness amongst all learners.

The schools involved are also part of the Department of Education's Dinaledi science and mathematics initiative. They are: Harry Gwala (Khayelitsha); Sophumelela (Phillipi); Spine Road (Mitchells Plain); Rhodes High and Thandokhulu (Mowbray).

Life skills were included for the first time in 2009.

Mathematics

The focus here was very research-led. The way in which mathematics was taught and learnt in the classroom was examined to identify problems and to develop a set of intervention strategies to overcome them.

This was done by videoing three sequential lessons which were then analysed for intervention strategies in 2010. There was teacher support at grade 11 and 12 level.

A seminar on the following findings from the video analysis was presented to teachers from the five schools:

- An illustration of how learners revert to the whole number domain when operating on fractions and integers
- Issues of sequencing and pacing in the mathematics classroom
- Technology for teaching

Science

Initially, classroom support was provided, followed by training in laboratory management for 55 teachers from 36 schools. This included other schools from the Dinaledi project.

The project also included classroom activities, observations, and data gathering, as well as a teacher-based needs analysis, resulting in a weekend short course on effective investigations. This was attended by 17 teachers, again including teachers from other Dinaledi schools.

Education specialists and UCT students worked on cleaning and tidying the laboratories and taking inventory, enabling purchasing of top-up equipment. Then learner activities for teaching laboratory skills were planned, all alongside work on the research agenda. By year-end, it seemed possible to use a collaborative reflective process called lesson study to identify the level of teacher subject knowledge and pedagogy.

Life skills

The focus was on developing teacher capacity to provide career guidance and other life skills in Life Orientation lessons. All activities aimed at supporting the learning of mathematics and science at the schools.

To this end workshops were presented on Multiple Intelligences (attended by 35 teachers), Classroom Management (65, including Zenex teachers) and Career Guidance (30 teachers). A short course on Learning and Cognition was held over two weekends in November (22 teachers).

Learner programme

This programme included seminars, holiday schools, and theme camps such as "Raising Leaders" for Grade 11 (88 boys and girls) and "Embracing my Future" for Grade 9 (85 boys and girls).

Parents were assisted with subject choices and learners also attended a careers exhibition.



School

Rural Education Project (REP)

This project was a primary school Numeracy and Literacy improvement initiative supported by UCT, the Western Cape Education Department (WCED), the Claude Foundation and the Foschini Group.

The intervention provided support to teachers in 38 primary schools in the Western Cape, and rural schools in the Eden and Central Karoo, Breede River, Overberg, Cape Winelands, and West Coast Education Districts. It commenced in 2005 and ended in 2009. In collaboration with the WCED, the project worked with teachers to improve teaching practice and learner performance in the Foundation and Intermediate Phase. The focus was on Numeracy/Mathematics and Literacy/Language with education specialists providing support to teachers not only in their classrooms, but also at a whole school curriculum planning level.

REP developed and demonstrated a range of sustainable strategies to assist individual and clusters of schools to identify contextual and professional factors related to poor performance. The programme also mediated the WCED Grade 3 and Grade 6 diagnostic test results in order to plan assessment strategies with teachers.

Another component was to work closely with circuit managers and curriculum advisors from the four rural Education Districts to ensure alignment of national and provincial policy and co-ordination of literacy and numeracy interventions in schools.



Advanced Certificate in Education (ACE)

In 2008 the WCED made bursaries available to participating REP teachers to study for an ACE qualification in Numeracy/Mathematics, Literacy/Language, or Curriculum Leadership at UCT.

A highlight of 2009 was the graduation of 17 Foundation Phase and 16 Intermediate Phase teachers from 34 project schools, and one curriculum advisor from the Eden and Central Karoo district.

Teachers found that the course content engaged very meaningfully with the theory and practice of teaching. Teachers were able to implement what they had learnt in their classrooms, and share their knowledge with their colleagues. Due to the success of these ACEs, the WCED has once again made bursaries available to teachers in these districts for 2010.

The Foschini Group

As an incentive for improved learner performance, the Foschini Group donated six jungle gyms to REP schools in each year of the project. This incentive was awarded to schools whose average for Numeracy and Literacy had improved the most over the WCED diagnostic testing cycle. In 2009, schools receiving jungle gyms were selected on the basis of the 2007 Grade 6 and 2008 Grade 3 performance. Children enjoy these facilities as part of their daily programme, and over weekends schools make the jungle gyms available to local community pre-schools.

We have learnt a great deal from working with teachers and Education District officials during this project, and look forward to sharing our insights and intervention strategies in 2010.

based work

School-based work

iKwezi Project

A new project was established at the end of 2009: The iKwezi Early Childhood Education and Primary School development project. The DG Murray Trust has funded this 3-year initiative in partnership with the Metropole North and East Education Districts. The project works with nine primary schools and seven community sites in the Mfuleni and Strand areas.

The project is called iKwezi (isiXhosa for 'star') as we envisage primary schools as a guiding light or hubs for co-ordinating and integrating efforts between the two education sectors to improve the lives of children in these communities. The focus of the project intervention is on Xhosa mother-tongue instruction, and will support Grade R and Grade 1 teachers in their efforts to raise the standards of literacy and numeracy in Grades R and 1.

This project will support the implementation of the National Department of Education and WCED policies and programmes, namely the Foundations For Learning and Inclusive Education.

The project is informed by the following assumptions:

- Learners will acquire essential literacy and numeracy skills in Grade 1 if they are well prepared in Grade R.
- Teachers will have a good understanding of how children learn and also have good content and pedagogic knowledge.
- Co-ordinated support from the Education District, service providers in schools and professional development programmes will lead to sustainable improvements in teaching and learning.



School



The Zenex-Dinaledi English Language Teaching (FET) Programme

This Zenex-funded two-year pilot programme for Grade 10 and 11 English First Additional Language teachers was launched in selected Dinaledi schools in four provinces. The SDU implemented this programme in 15 schools in the Western Cape.

It has been documented that English is used as a home language by only one-fifth of the population in the Western Cape. Against this backdrop, it is understandable that in ex-DET schools, where English is the official language of learning and teaching, the academic performance of learners, particularly in mathematics and the sciences, is compromised.

Working to address this imbalance, the programme was developed to comprise the following core interventions:

- A structured 60-hour professional development programme aimed at enhancing subject content knowledge and pedagogy.
- Cluster workshops focusing on specific areas where teachers needed additional support.
- Classroom support visits in the form of lesson-observations and feedback, co-planning and co-teaching with educators.
- Providing each teacher with prescribed literature texts, dictionaries, a set of *The Principles of English Language Teaching* manual and Work Schedule, and each learner with a copy of the *Keys to English* textbook.
- A starter classroom library for each of the 15 schools.

During 2009 a total of 466 classroom support visits were completed. Initially, fieldworkers worked with 74 teachers; when our modus operandi changed in July in order to focus more intensively on a smaller group of teachers, 33 teachers were supported.

Project schools were also assisted in hosting a Reading Festival to encourage extensive reading, culminating in a prize-giving ceremony during Library Week at the Central Library in Cape Town. The SDU also facilitated the setting of common Language and Literature examination papers in June and November.



based work



School-based work

Education for Sustainable Development (ESD)

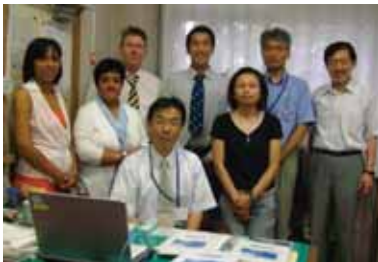
This two-year project aims to develop and test an ESD module for application in Grade 4 to Grade 6 classrooms in South Africa and Japan. It is based on collaborative work between the International Christian University in Tokyo and the Schools Development Unit at UCT.

The project is funded by Japan's Ministry of Education, Sport Science and Technology. This collaboration has brought together Japanese and South African teachers and learners in partnering schools in order to build a vision of sustainable development that makes sense across different social, economic and cultural backgrounds. Educators have been developing learning modules on curriculum guidelines, learning materials, and teaching methods for application in their classrooms.

South African teachers have had the opportunity to visit Japanese schools, conduct classroom observations, and participate in collaborative curriculum development.

Teachers have also participated in co-teaching and lesson study, a model for peer teacher learning developed in Japan. The first stage of the project culminated in a symposium held in Mitaka, Japan, where teachers reflected on and discussed the challenges and successes of the ESD project. The next phase of the project will include similar module development at the junior secondary school.

This initiative is an excellent opportunity to engage in a uniquely global yet local initiative. The integration of ESD in the curriculum is essential, and would transform existing practice in science education.



Courses

Advanced Certificate in Education (ACE)

The Advanced Certificate in Education is a qualification specifically designed to up-skill in-service teachers in schools. Our courses not only provide useful content that teachers can apply in their classrooms, but also afford teachers an in-depth perspective on how best to teach important concepts.

The following ACE programmes were offered during 2009:

- Literacy and Numeracy in the Foundation Phase
- Mathematics and Language in the Intermediate Phase
- GET Mathematics
- FET Mathematics
- FET Mathematical Literacy
- GET Natural Sciences
- FET Life Orientation

A total of 384 students registered for these ACE programmes.

All programmes commenced at the start of the academic year in the middle of February, with the exception of one rural cohort consisting of combined Literacy and Numeracy (FP) and Mathematics and Language (IP) students. This cohort commenced their classes during the March/April school vacation. A team of experienced education specialists from the SDU and academics from the UCT School of Education deliver the lectures. Feedback from students indicates that they find the content delivered on the courses to be both informative and applicable in their classrooms.

The GET ACE programmes, as well as the two primary school ACE programmes, incorporate classroom visits as part of the curriculum. These visits have been well received by the teachers who are attending the programmes. The intent of the site support is to bring the lecture content into the classrooms. The lecturers who visit teachers co-plan and co-teach with their students, providing advice and giving feedback where necessary.

A total of 126 students graduated at the end of 2009.

Funders for the ACE courses during 2009 were the National Department of Education, Western Cape Education Department, Eskom, and MSEF.

Our ACE programmes strive to promote good teaching practice coupled with a sound content knowledge base in our schools.



Courses

Courses

Short course programme

The short course programme, conceptualised in 2007 and piloted in 2008, has shown much potential. Feedback from clients indicates the great advantage in a product which allows for design or modification customised to the clients' needs. Whilst the range and number of courses offered was limited in 2009, there was variety in both course format and client profile. Some courses were offered off-campus, some included a spell in the computer laboratory, and one even included a yoga session as a relaxation break!

Courses offered:

- Transformations and Financial Mathematics
- Aspects of Content and Pedagogy for Teachers of Mathematical Literacy
- Learning and Cognitive Development
- Fundamentals of Inquiry

The biggest challenge facing the short course programme is that of funding. The much-anticipated Continued Professional Development system was put on hold by SACE and as a result teachers were no longer forced to put in the required number of professional development hours, removing a large portion of our anticipated market. This unfortunately lessened the necessary pressure on teachers to upgrade their knowledge and skills. Another challenge is to obtain SAQA accreditation for short courses, which would allow teachers to build up to a qualification through a series of short courses.



Courses

Climate Change Education and Awareness Programme (CChEAP)

This project, which was an **environmental science education flagship project** for the Western Cape government in 2008, was the result of collaboration between the Department of Environmental Affairs and Development Planning, the City of Cape Town, the WCED and the SDU. In 2008, the SDU developed a package of materials on climate change and held a four-day workshop.

In 2009, the training aspect of this project was expanded into a two-week block held at the Cape Teaching and Learning Institute in Kuils River. In preparation for this training, the teacher workbook and learner task cards were translated into Afrikaans, as were the four posters that had been developed.

The two-week block was introduced by the Minister of Local Government, Environmental Affairs and Developmental Planning, Anton Bredell. Peter Johnston of the Climate Study Group at UCT once again delivered the keynote address. This was followed by a series of hands-on workshops introducing the themes of climate change—earth systems, energy, oceans, clean water, extreme weather, food security, paleo-climatology, biodiversity and food security. These themes were interlaced with arts and culture, life orientation, and an introduction to the SDU resource pack. The workshops were presented by a number of SDU staff as well as guest speakers.

Participants also went on two field trips: one to the West Coast Fossil Park and West Coast National Park, and the other to the Soetwater Environmental Centre and the Shark Centre in Kalk Bay. In the computer laboratory sessions, participants were introduced to the City of Cape Town's new biodiversity resource, the eKapa DVD, and the DVD developed by the SDU as part of the package of climate change materials. There was also a day of art, drama and music co-ordinated by Pedro Espi-Sanchez, with each school receiving a music kit.

The course culminated in a certificate ceremony at the Sea Point Aquarium. It was evident that teachers had grown in their personal understanding of the complexities of climate change and its possible impacts on human society. They were also confident that they had ideas, practical resources, and materials to implement this new and vital topic in flexible and integrated ways.





Courses

Laboratory Training Workshop: Life Sciences

This WCED-funded workshop in laboratory and storeroom management targeted 104 schools that had been provided with a complete set of new laboratory apparatus.

Educators were taught not only how to identify and use the new apparatus, equipment, and chemicals, but also how to manage them. Aspects such as safety, security and maintenance were also addressed. The workshops provided an opportunity for teachers to familiarise themselves with the new equipment used for investigations

The workshops were well received by teachers and curriculum advisors because the level of active engagement was very good, the standard of the presentations was high, and the content relevant. The fossil and DNA murder mystery activities, for instance, were very enjoyable but also challenging. A follow-up session has been requested.

FET Physical Sciences and Life Sciences Laboratory Management Training

This WCED-funded training course was presented to Physical Sciences and Life Sciences teachers. The course empowered educators in urban and rural Dinaledi/MST focus schools by teaching them to manage Physical Science (FET) laboratories and equipment effectively in accordance with the new curriculum.

A total of 55 teachers from 36 schools attended the two-day training, which ran over two Saturdays. Gauging from the feedback, teachers found this course very valuable in terms of content and quality of delivery.



Post Graduate Certificate in Education (PGCE)

The SDU staff lectured in the following method courses:

- Life Skills
- Mathematics
- Physical Sciences

These courses included modules on pedagogy, lesson planning, practical work, research projects, and assessment.



Courses

The SDU at work



Testing

Grade 9 testing

The second phase of Mathematics and Languages Grade 9 testing was conducted throughout the Western Cape in April 2009. The tests were developed by the SDU after being awarded a tender to do so by the WCED in December 2007. The purpose of this assessment, as stated in the tender specifications and the original proposal, was to assess mathematical proficiency, to identify potential, and to direct future subject choice. These tests, grounded in the Learning Outcomes and Assessment Standards of the previous year (Grade 8), were written by all Grade 9 learners in the province.

The results reported on 66,979 learners in mathematics and 66,119 learners in languages. A total of 494 schools participated in these tests (37 schools did not). The captured data could be correctly allocated to only 95% of the learners. The biographical data of the remaining 5% of the learners could not be matched with their scores (a marked improvement on 2008, when the figure was 85%). The final products of the project included:

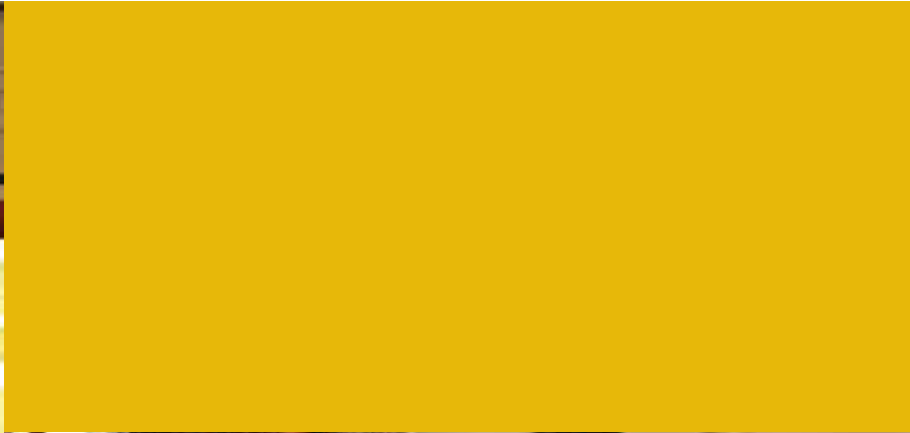
- 66,979 learner certificates and individual reports.
- Two reports for each of the 494 schools, reflecting:
 - A complete set of individual learners' results, showing each learner's score, percentile rank in school, percentile rank in province, as well as the award on the certificate.
 - A summary reflecting the total statistics for the school, including the number of learners who wrote, their total mean score, and the standard deviation for each test.
- One provincial report, eight district reports, and a PowerPoint presentation on CD were submitted to the Director of Assessment to be distributed to the districts.

Grade 6 testing

The Numeracy and Literacy Grade 6 tests were conducted throughout the Western Cape in November 2009. These tests were also conducted as a result of the same tender. Testing was administered to 81,005 Grade 6 learners in 1,053 schools across the eight districts of the WCED. 292 field workers were deployed to the various schools after attending training sessions that took place in four regions. The Numeracy and Literacy scripts were then marked by 150 trained markers. The data was manually captured by 200 people under the supervision of 17 senior markers.



Testing



Materials development

FET Life Sciences assessment exemplars

As part of a WCED tender, the SDU prepared a set of assessment tasks for use by Grade 10 Life Sciences educators. These tasks were developed in accordance with the new Content Framework established in January 2009, and were designed in the form of exemplars.

They include control tests, practical tasks and a research project. The resulting 52-page document was also translated from English into Afrikaans. Documents in both languages were then made available by the WCED to all high schools in the province.

Educator support

Resource Centre

The Resource Centre became operational in 2009. It houses about 5,000 resource materials and two computer work stations. Currently, most of the new materials are donations of specimen copies of books from the bigger publishers.

A unique feature of the centre is the collection of resources which have historical significance, as they were produced in the apartheid era as part of "alternative education", and are no longer accessible elsewhere.

In addition to making learning materials available, the centre also focused on providing ACE and other students with academic support. These students were taught skills which included engaging with academic texts, referencing techniques, and how to structure assignments. The Teacher Enrichment Initiative forms part of the services offered by the Resource Centre.

Teacher Enrichment Initiative (TEI)

This initiative comprises a series of once-off presentations on education topics. Some of the goals of this initiative are to:

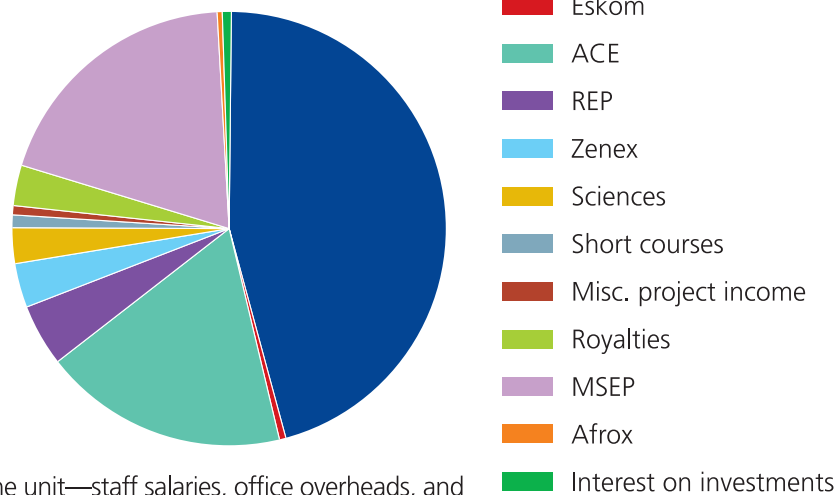
- Expose educators to academic expertise by discussing relevant topics at a deeper level.
- Present experienced teachers with fresh insights into curricular and other issues.
- Provide a forum for sharing ideas and engaging in healthy debate around pertinent educational issues.

The first presentation on **Dilemmas of Education Policy** by Professor Peter Kallaway proved to be a huge success, with very good attendance and the participants engaging in fiery debate.

Budget matters

Income

The SDU's overall operating budget for the year amounted to just over R25.5 million.



The direct operating costs of the unit—staff salaries, office overheads, and so forth—came to just over R6.4 million in 2009; the remaining monies were spent on the operations of the various projects. In particular, the two large-scale testing exercises (Grades 6 and 9) undertaken on behalf of the WCED accounted for just under half of the total operational spend of the SDU.

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

Testing	Western Cape Education Department
CTLI courses	Western Cape Education Department
ACE courses	Department of National Education; Western Cape Education Department; Eskom
Short courses	Uplands College/MSEP
REP	Claude Leon Foundation; Foschini
Dinaledi-ELT	Zenex Foundation
Climate change	Provincial Department of Environmental Affairs and Development Planning
MSEP	The Royal Netherlands Embassy
Science	Western Cape Education Department
Training/exemplars	
Royalties	Macmillan; Juta; Nasou Via Afrika

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, and the unit continues to enjoy a most generous allocation of office space on the fifth floor of the Hoerikwaggo Building.

Partnerships 2009

National Department of Education and Western Cape Education Department

- The SDU is an important service provider in the Literacy and Numeracy Strategy (2006 - 2016) of the WCED
- WCED Dinaledi programme
- ACE programmes
- WCED testing: Grade 3 and Grade 9
- Mathematics, Science and Technology ACE in Quality Improvement, Development, Support and Upliftment Programme (QIDS-UP) for Western Cape

Department of Environment and Development Planning City of Cape Town

Professional bodies

- The Association for Mathematics Education in South Africa (AMESA)
- The SA Association of Science and Technology Educators (SAASTE)
- The SA Association of Research into Maths, Science and Technology Education (SAARMSTE)
- Reading Association of South Africa (RASA)
- South African Women In Science and Engineering (SAWISE)

Universities and colleges

- UCT: Faculty of Science; Faculty of Humanities; School of Education; Department of Statistical Sciences; Department of Physics; Department of Chemistry; Department of Mathematics; Department of Chemical Engineering; Department of Environmental and Geographical Sciences; Department of Geology; Alternative Admissions Research Project (AARP); Project for the Study of Alternative Education in South Africa (PRAESA); Career Development Centre (CDC); UCT Recruitment and Admissions Office; Active Science
- Cape Peninsula University of Technology
- University of Pretoria: CEA
- University of Stellenbosch: IMSTUS, RUMEUS
- University of the Western Cape: SSME, Africa Genome Project
- Utrecht University, Netherlands: Freudenthal Institute
- International Christian University (ICU), Mitaka, Japan

Business and funding partners

- Afrox Foundation
- Claude Leon Foundation
- Colorado Council for the International Reading Association
- DG Murray Trust
- Eskom
- The Foschini Group
- Macmillan Publishers
- MNET Learning Channel
- Murray and Roberts
- Nasou Via Afrika Publishers
- National Business Initiative
- Old Mutual
- Royal Netherlands Embassy
- Upstream Training Trust
- Zenex Foundation

Other

- Basic Concepts Programme
- Early Learning Resource Unit (ELRU)
- Extra-Mural Education Project (EMEP)
- Generation of Leaders Discovered (GOLD)
- Globe Learning Communities
- Ithemba Labs
- Kirstenbosch National Botanical Gardens
- Protec
- Science and Industrial Leadership Initiative (SAILI)
- Scifest Africa
- Soetwater Environmental Education Centre
- South African Astronomical Observatory
- South African National Museum (Iziko Museum)
- Systemic Education and Extra-Mural Development and Support Consortium (SEEDS)
- Two Oceans Aquarium
- West Coast Fossil Park

Publications and conferences

Anthony, R. J., Yore, L. D., Coll, R. K., Justin, D., Chiu, M., Fakudze, C., Grimberg, I., Wang, B. (2009). *Research ethics boards and the gold standard(s) in science and literacy education research*. In M. C. Shelley II, L. D. Yore, & B. Hand (eds.), *Quality research in literacy and science education: International perspectives and gold standards* (pp. 511-558). Dordrecht, The Netherlands, Springer

Davies, N., Siebrits, M. (2009). *Scouting and AIDS: Youth HIV/AIDS training within the context of a shared value system*. In Proceedings of the 3rd SA AIDS Conference, April 2009, Durban.

Ensor, P., Hoadley, U., Jacklin, H., Kühne, C., Schmitt, E., Lombard, A., van den Heuwel-Panhuizen, M. (2009). *Specialising pedagogic text and time in Foundation Phase numeracy classrooms*. In Journal of Education, Kenton Special Edition. 47 pp. 3-30.

MacKay, R. (2009). *Remarks on the inefficient use of time in the teaching and learning of mathematics in five secondary schools*. In Proceedings of the 15th Annual Congress of the Association for Mathematics Education of South Africa (AMESA) Vol. 1. (eds.) JH Meyer & A van Biljon. Bloemfontein, Free State.

Meyer, S. & Kühne, C. (2009) *Grappling with change: case studies from the rural education project*. Journal of Education, Kenton Special Edition 47 pp.73-99.

Mgoqi, N.(2009). *Understanding life sciences teachers' perceptions of practical investigative work in Further Education and Training (FET) band*. In Proceedings of the Seventh Annual Meeting of the Southern African Association for Research in Mathematics, Science and Technology (SAARMSTE). 19-22 January 2009.

Petersen, A. (2008). *The use of concept maps as an assessment tool for evaluating the knowledge of teachers*. In M. Schafer and C McNamara (eds.) In Proceedings of the 17th conference of the South African Association for Research in Mathematics, Science and Technology Education (SAARMSTE). 19-22 January 2009, Rhodes University.

Roberts, A. (2009). *Impact of language on the constitution of mathematics in pedagogic contexts: a case drawn from a research and development project*. In Proceedings of the 15th Annual Congress of the Association for Mathematics Education of South Africa (AMESA) Vol. 1. Editors: JH Meyer & A van Biljon. Bloemfontein, Free State.

Service activities

Norman Davies	Member, Committee for University Education in Science, UCT (CUES)
Gilbert Dolo	IKS Working Group, UWC
Kaashief Hassan	AMESA Executive Council Member
Nomvuyo Mgoqi	SAWISE local committee
Yusuf Johnson	AMESA Executive Council Member.
Andrew Petersen	Member of Board of Directors, Soetwater Environmental Centre, Kommetjie
Gary Powell	Vice President AMESA Western Cape

Abbreviations, acronyms and terms

AARP	Alternative Admissions Research Project
ACE	Advanced Certificate in Education
CChEAP	Climate Change Education and Awareness Programme
CEA	Centre for Evaluation and Assessment, University of Pretoria
CTLI	Cape Teaching and Leadership Institute
CPUT	Cape Peninsula University of Technology
CUES	Centre for University Education in Science, University of Cape Town
EDO	Education Development Office
EMDC	Education Management and Development Centre
DEADP	Department of Environmental Affairs and Development Planning
DoE	Department of Education
ELT	English Language Teaching
FET	Further Education Training Band (Grades 10 to 12)
GET	General Education Training Band (Grades R to 9)
IKS	Indigenous Knowledge Systems
IMSTUS	Institute for Mathematics and Science Teaching, at Stellenbosch University
LOLT	Language of Learning and Teaching
MSEP	Mathematics and Science Education Project, at the University of Cape Town
MST	Mathematics, Science, Technology
QIDS-UP	Quality, Improvement, Development, Support and Upliftment Programme
REP	Rural Education Project
RNE	Royal Netherlands Embassy
RUMEUS	Research Unit for Mathematics Education, at the University of Stellenbosch
SAWISE	South African Women in Science Education
SDU	Schools Development Unit
SEEDS	Systemic Education and Extra-Mural Development and Support Consortium
SSME	School of Science and Mathematics Education, at the University of the Western Cape
UCT	University of Cape Town
UP	University of Pretoria
US	University of Stellenbosch
UWC	University of the Western Cape
WCED	Western Cape Education Department

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