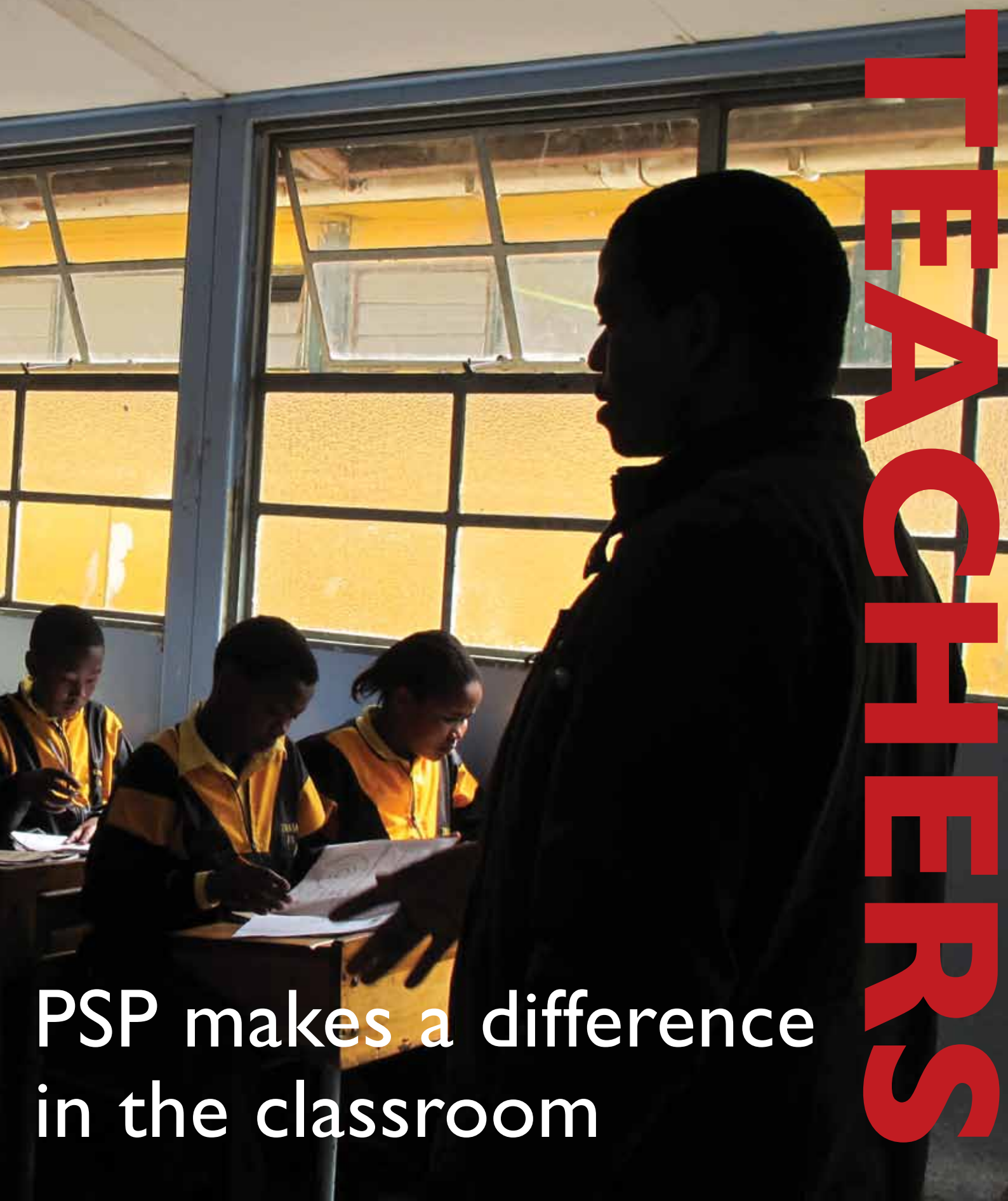


INSPIRING

TEACHERS

PSP makes a difference
in the classroom



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INSPIRING TEACHERS

PSP makes a difference in the classroom



About this book

This booklet celebrates the journeys of seven teachers who joined the PSP projects and, through personal courage and dedication, became reflective educational leaders and inspiring science practitioners.

The short case studies tell the stories of these exemplary teachers from their own points of view. Each of the teachers came to teaching Natural Sciences via different routes and with different educational and cultural backgrounds. Yet all attest to the fact that their involvement with the PSP enhanced their confidence, knowledge and skills, while also stimulating their professional curiosity. These teachers have become important role models for their learners, their colleagues and their communities.

Their accounts show how the PSP projects

provided them with practical and effective solutions to persistent difficulties in their teaching contexts. They describe how they were able to overcome challenges such as large classes, a lack of practical materials and frequent curriculum changes.

The manner in which these teachers sought and embraced the professional wisdom and support offered by the PSP is invigorating to read. Furthermore, these stories show that there are hundreds of young learners who are experiencing the joys of discovery and conceptual understanding, through practical enquiry, under the tutelage of these teachers. That is truly thrilling.

Angela Schaffer
Independent Education Evaluator



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ALEX WILLIAMS

Hands-on approach 'creates excitement'

Alex Williams is a Grade 5 and Grade 6 Natural Sciences teacher in an under-resourced area in Cape Town. He has a teaching diploma, yet it wasn't until he started attending PSP courses in 2007, he says, that he knew he could make a difference in the classroom.

Manenberg in the Cape Flats is an area Alex knows well. Not only has he been teaching there for 22 years, he has lived there for most of his life and has been a close witness to the drug and alcohol abuse that taints many people's lives.

"I myself was brought up in a good home, but sometimes the circumstances surrounding us weren't good."

He decided that he could make a difference if he pursued a career in teaching and applied for a bursary to attend the Wesley College of Education in Cape Town.

"I knew that the future could be a better place and I wanted to make it bigger and brighter for myself and for future generations."

Alex graduated in 1991. However, soon after he started teaching, he realised that what he was taught at college didn't translate easily into the classroom.

"In college the emphasis is mostly academic. They only teach you a part of the profession, so when you enter the real world, you experience problems you were not prepared for."

These problems included a lack of resources to teach science, changes to the curriculum, feeling incompetent to teach subjects he was not trained in, big classes, language barriers and a heavy workload.

"There was also poor discipline and having to deal with kids on *tik* and other drugs."

Alex's job was difficult, but he did not give up and decided to seek help by getting involved with the PSP.



“ I realised that Natural Sciences didn’t have to be taught using the theoretical model; there are also practical models and a hands-on approach. ”

“There is a lot of practical work that has to be done in the subject of science. I wanted to acquire the necessary skills and the know-how so that I could carry that knowledge and skill over to the children so that they could understand science better, but in order for that to happen I had to put myself through more training.”

The first opportunity to make a change in his teaching came in 2007 when he became involved in the PSP Cluster Project at his school.

Later he also attended the PSP’s Innovation Project, which runs short courses during term time. These courses aim at developing primary school teachers’ knowledge and skills and provides materials to support learning. Both projects provided Alex with many innovative strategies to enhance his teaching.

“I started realising that Natural Sciences didn’t have to be taught using the theoretical model; there are also practical models and a hands-on approach. There’s actually a lot of excitement surrounding the subject.”

In the past learners in his class were fascinated by science experiments, but it was a struggle to find the right equipment. PSP came to the rescue and provided teachers who participated in the Cluster

Project not only with new teaching strategies, but with teaching aids and apparatus.

“The Old Mutual ‘Out-of-the-Box’ science kits were extremely useful for practical activities. The PSP showed us how to use beakers, measuring cylinders, funnels, thermometers, electrical circuits and the lesson plans provided in the kits.”

Alex is confident in his knowledge of Natural Sciences and says the PSP helped “straighten him out”, but he finds the curriculum changes disruptive.

“I can understand that they want to implement a new learning model, however, teachers need to have access to workshops when this happens. Teachers should never be in a position where they don’t understand all the material.”

Although Alex’s participation in the Cluster Project ended in 2009, he still uses the resources and materials that he obtained from the PSP.

“I can go to my colour-coded booklets, which have all the different strands of Natural Sciences, and easily plan my lesson for the next day. All the copies and task cards are there, in both languages, and all the materials are coordinated with my science box and the curriculum. It makes teaching easy!”

ARTHUR PHILANDER

Better prepared shows better results

Arthur Philander has been a teacher for 33 years and teaches Grade 6 and Grade 7 classes at Primrose Park Primary School in Manenberg. He is also Head of Department for the Intermediate and Senior Phases at his school.

Arthur has always had a great passion for learning. He grew up in Manenberg and went to the University of the Western Cape where he received a BA degree in 1991. Six years later, he got a BEd from the University of Stellenbosch. He is currently pursuing an Advanced Certificate in Education at the University of Cape Town.

In spite of his qualifications, Arthur faces huge challenges as a teacher.

"I started off by teaching individual subjects. At the moment I find myself teaching all the subjects, even those I was not trained for. I'm a trained art teacher but I ended up teaching economics and technology. Those were the subjects I stayed as far away from as possible in training!"

Arthur's introduction to the PSP came in 2006 when Primrose Park decided to participate in the PSP's three-year Cluster Project, from 2007–2009. He embraced the PSP Cluster workshops and their in-class support and reflection sessions as a way to enrich his teaching. He says the PSP offered solutions to the challenges associated with the changes in the education system.

Trained as an art teacher, Arthur brings creativity and excitement to the subjects he teaches ... even those he was not trained for. Currently he is responsible for teaching all subjects in Grade 7: Maths, Languages, Natural Sciences, Technology, Life Orientation, Social Sciences, Economic and Management Studies, as well as Arts and Culture. Not only does he have to master subject matter, he also has to create lessons each day for all the subjects he teaches.





Arthur saw the PSP's assistance as a solution to coping with these challenges and he encouraged his fellow teachers to take advantage of the Cluster Project too. He attributes his growth in confidence to the training and skills that he and his colleagues obtained in the PSP-run workshops.

"Everything done in the workshops was practical. So after I experienced the workshop myself, I felt very confident to come to the class and do the experiments. You learn so much more than when just sitting in a lecture hall taking notes. Other workshops I've attended are not as useful ... there you're given a bunch of stapled papers and explanations here and there, and they say, 'off you go!'"

Particularly useful were the "Out-of-the-Box" science kits that the Cluster Project provided through the Old Mutual. "It's a little mobile lab. Whatever you are going to need – from magnifying

glasses to tape measures – you will find it in there. It also comes with a manual of things you can add. The presentation of the lesson is 80% more successful!"

Arthur says the PSP's Cluster Project plays an important role in creating an interest in Natural Sciences.

"In the past, teachers have stayed as far away as possible from science and maths. Now more teachers are teaching science than any other subject."

He also values the goal-oriented approach of the PSP and makes this an integral part of his teaching.

"The better prepared you are for what you're going to do, the better the results. Learners pick up very quickly that this person is not prepared. So when I walk in and tell them what to do and what to bring along, they can see we are moving in a certain direction and that there is a goal at the end of the lesson."

"After I experienced the workshops myself, I felt very confident to come to the class and do the experiments. You learn so much more than when just sitting in a lecture hall taking notes."

NORMA ADONIS

'Teacher of yesteryear' now feels innovative and inspired

After years of education and teaching experience, Norma Adonis says the PSP made her the teacher she is today – one with more than one strategy.



Norma, who has been teaching for 45 years, currently teaches Grade 7s at JS Kloppe Primary School in Elsies River in Cape Town. She grew up in Elsies River and received her Primary Teachers' Certificate (PTC) from Zonnebloem College in 1966, but, she says, she has always had a desire to continue studying. "I just feel that you can never know enough. You have to empower yourself."

In 1993, despite teaching full time and playing the role of both parents to her three children while her husband worked in Botswana, Norma still found time to pass her matric. In 1994 and 1995 she studied part time at Bellville College of Education to complete her Diploma in Education II. The following year she studied full time and completed a Diploma in Education III. She also embarked on an Advanced Certificate in Education which she completed in 2008.

She cites the PSP as instrumental in shaping her interactive teaching style. In 2000, she attended PSP courses in Mathematics and Natural Sciences, and found the courses informative, exciting, and interactive.

"I used to tell my class when I came back from PSP, 'I've learnt this and I've learnt that ... and I want to do it with you!'"

Then, from 2007–2009, JS Kloppe Primary participated in the PSP Cluster



"You can never know enough ... You have to empower yourself."



Project, which works intensively with science teachers. Norma participated in workshops, classroom observations and assessments presented by PSP facilitators.

The PSP's hands-on approach contrasted greatly with the chalk-and-talk methods she had been used to, and Norma recognised the benefits of using an interactive teaching style to engage all types of learners.

"You work with children and different children all have different ways of grasping and paying attention."

Once a "teacher of yesteryear", Norma now uses the many different strategies that she gained from the PSP.

"I involve the children. My learners work in their groups or read, then go to the front and report back. I want them to be part of it. I don't do all the teaching on my own."

The success of this approach, she says, can be seen in her learners, who are more confident and involved in lessons. "They research much more, and they want to know more."

ZOLA PHILIP MBEBE

'Going through the motions' is not enough for Philip

Zola Philip Mbebe is a Natural Sciences and Mathematics teacher in Langa. He holds a diploma in education, has completed an Advanced Certificate in Education at the University of Cape Town, and plans to start work on a Bachelor of Education at UCT. Yet, he still decided to participate in PSP programmes.

Philip believes in being a role model to his learners. He has been teaching for 14 years and hails from Ngqueleni in the Eastern Cape. After receiving his education diploma from the Clarkebury Teachers' Training College, he taught at a school in Nthabankulu from 1997–1998.

In 2000, he moved to the Western Cape to further his career and started teaching at Zimasa Primary School in Langa where he currently teaches Grade 6 Natural Sciences and Mathematics.

Philip wasn't prepared for the difficulties

he would encounter in his new province. Controlling his classes proved challenging, "something I hadn't experienced before".

"I didn't want to fight with the kids, but had to find a way to discipline them. If I gave them homework, they didn't do it because they knew there was nothing I could do about it. I just found it more difficult here than in the Eastern Cape ... "

Philip discovered that being well educated doesn't necessarily help solve the daunting challenges of discipline as well as planning lessons to suit an ever-changing curriculum.



" The PSP has helped me find a good way to approach a lesson. They work in a practical way, see the problems and help where you need support."



In 2000 a friend told him about the PSP. First he attended a course on Natural Sciences at the Cape Teaching & Leadership Institute (CTLI).

The intensive three-week programme run by the PSP enabled Philip to improve his lesson preparation. It combined developing the curriculum and concept knowledge and activities with practical planning and assessment tasks, and covered all four Natural Sciences strands.

Later on his school participated in the PSP's Cluster Project. Philip said what helped him the most was that PSP staff visited his classroom. Their in-class support and practical teaching strategies, as well as prudent ways to keep order in the classroom, were extremely beneficial.

"The PSP has helped me find a good way to approach a lesson. They work in a practical way, see the problems and give support."

Philip has no time for simply "going through the motions". Instead, he makes sure that his learners are immersed in the content of the subject at hand. This approach has resulted in an improvement in his learners' test scores in science, maths and languages.

"I was struggling before working with the PSP, but I'm not struggling anymore. I'm teaching in a much better manner now, and if you look at the learners' results in science and maths, then you can see that they are improving as well."

MAWONGA MCUBA

Adapting to new challenges with practical help from the PSP

Originally from Grahamstown in the Eastern Cape, Mawonga Mcuba studied at the Cape College of Education in Fort Beaufort. After his studies, he followed his dream and became an educator, and currently teaches Natural Sciences and Technology at Nal'ikamva Primary School in Mfuleni, close to Khayelitsha in Cape Town.

Mawonga started work in Cape Town in 2006 as a substitute teacher at Nal'ikamva Primary School. The following year he got a permanent appointment to teach Natural Sciences and Technology at the school. He teaches Grade 6 learners.

In 2007, Mawonga attended a four-week Natural Sciences course run by the PSP for primary school teachers at the Cape Teaching and Leadership Institute (CTLI) in Kuils River.

Mawonga says he wanted to boost his confidence as a teacher.

"I wanted to go to CTLI to develop my science and technology knowledge. And that's where I really developed as a teacher," Mawonga says.

"Everything was provided. We got materials, instructions on setting up lesson plans ... just everything you needed to know."

After the course, however,





“ You have to be responsible. You have to be confident and want to make sacrifices for the learners ... ”



Mawonga still found there were challenges in the classroom. He was working in a very different cultural context from the one he had experienced in the Eastern Cape. In addition, he had to buy the materials needed to teach from his own pocket.

“It was not easy planning the next day’s lessons with a lack of resources.”

Help was at hand. In 2007, Mawonga’s school enrolled in the PSP’s three-year Cluster Project. The in-class observation sessions and the hands-on methodologies introduced by the PSP staff helped him to solve the cultural, logistical and material difficulties in his classes in a “practical way”.

“The first problem was planning. I simply didn’t know how to do it. I’m from Eastern Cape where kids aren’t taught to move around or do experiments in class. But I learnt from the PSP staff that teaching and planning in a practical way is best when dealing with learners.”

“We don’t have the resources to work with. So I’d call the PSP and ask them if they can bring me materials because I want to use them in class. The kids do all right with textbooks, but they understand much better with hands-on materials.”

The PSP’s Cluster Project has had a lasting impact on Mawonga and it helped him improve his practice. “You have to be responsible. You have to be confident and want to make sacrifices for the learners ... I am very proud of them.”

Mawonga was one of the teachers chosen to present his work at a PSP Teachers’ Conference at the end of the third year of the Cluster Project.

“I was so emotional when I left there. When I was leaving, someone asked me why I was crying, I said I wasn’t crying but that I was proud of myself. I’m doing this for my school. I want everyone to know of the PSP. They were a big part of my development.”

HELEN SWANEPOEL

Teaching kids to be open minded

Helen Swanepoel has always loved sports and nature. With help from the PSP, she discovered how to best utilise her passions to channel her learners' energy constructively.



Helen has been teaching since 1975. She teaches Natural Sciences in Grade 7 and all the subjects in Grade 5 at Athwood Primary School in Hanover Park. Her contact with the PSP gave her the tools she needed to help the children who had particular difficulties in her class.

Helen began her studies in physical education at Zonnebloem College in 1974. In 1976, she attended Hewat College for two years to study Biology and English.

When Helen began teaching in Hanover Park, she had a culture shock. Due to socio-economic circumstances, the children struggled with appropriate in-class behaviour. They were street smart, educated in drugs and alcohol, and many had experienced gangsterism. This behaviour was also evident in the way they treated nature, something near and dear to Helen's heart, as she had grown up on a farm.

"They were ignorant when it came to animals and plants. They used to kill the lizards, they used to break off limbs, they were destructive."

She began to look for approaches to teaching that could constructively channel her learners' energy.

In the late 1990s, Helen attended her first PSP workshops in English and Natural Sciences.

At the workshops, the PSP demonstrated creative ways to teach English using the vocabulary of different sports. Back in the classroom, Helen applied these methods in her lessons. She integrated aspects of different sports familiar to her learners, such as soccer and netball, into her



“ They were ignorant when it came to animals and plants. They used to kill the lizards, break off limbs ... they were destructive.”

own teaching of maths, science and languages. “Learners really enjoyed this,” she says.

Soon after Helen attended these workshops, her school received information about PSP Innovation courses. Helen encouraged other teachers to attend. “I told them how approachable PSP facilitators were.”

The Innovation courses helped Helen improve her knowledge and gain new strategies for teaching such as “shared writing” and “shared reading”.

“The PSP showed [us] how to work not as individuals but how to work in different groups in class and as a whole. They empowered me to bring concepts across to the children. The learners can do critical thinking that they never used to do...”

The PSP gave Helen resources such as teacher lesson books in various subjects, an Old Mutual “Out-of-the Box” science kit, as well as other resource materials for teaching science and maths. In addition, they showed teachers how to use everyday “household stuff” for in-class activities.

Another great resource for Helen has been the PSP office, located in the Edith Stephens Wetland Park. Several times a year, when teaching the “Life and Living” unit, she takes her learners to Edith Stephens to “touch and feel” the living things in the environment that they don’t have access to in Hanover Park.

Helen says that after her learners have visited the PSP at the Edith Stephens Wetland Park they respect nature and are no longer destructive. “Not one of them broke down any branches ... They become open minded.”



SHAHIEDA MARTIN

Overcame fears to carry on learning

In the past, Shahieda Martin spent many hours researching ways to excite and engage her learners. Her contact with the PSP provided her with the answers.



Shahieda Martin has been teaching for nearly 20 years, 16 of which were spent teaching at Post Level 1 at the Searidge Park Primary School in Mitchell's Plain. She received her teaching diploma from Zonnebloem College and completed an additional year at the University of Cape Town. However, her introduction to the PSP at the Cape Teaching & Leadership Institute (CTLI) provided Shahieda with the foundations for further success in the classroom.

"Whenever I had a learning area or topic to approach, I'd think: How do I do it? How do I make it exciting for the children? How do I make it practical? And those things always boggled my mind. And that sent me to the libraries to find ideas to make things challenging for the kids."

It is always difficult to keep children focused and interested in learning, when their environment is plagued by a variety of social problems. Drug abuse, broken homes and poverty is common in many under-resourced areas. Books and research were not always able to provide her with answers.

Luckily for her, says Shahieda, she was selected to attend the CTLI course in 2005 and this brought her into contact with the PSP. This also gave her the valuable opportunity of networking with other teachers in greater Cape Town as well as the coastal regions of the Western Cape. During the three-week intensive course on Natural Sciences, she found the activities the PSP demonstrated were practical and easy to implement in her classroom. These enabled her to transfer her own science knowledge to her learners more effectively.

"I had biology from Grade 8 and I loved it. These



**“ There’s
always
something
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something
challenging,
something
interesting.”**

were all things that I know. Now I knew how to put it into practice.”

After her initial contact, Shahieda continued to work closely with the PSP and from 2007–2009 Searidge Primary School participated in the PSP’s Cluster Project. By taking advantage of cluster workshops, in-class observations and reflection sessions, Shahieda gained knowledge from the PSP that extended beyond the Natural Sciences. Step by step, she was able to draw up her own lesson plans and learning programmes. In addition, she adopted group-work strategies and journal writing as enjoyable ways for learners to interact with the learning material.

PSP Innovation courses in other subjects, such as Mathematics and Social Sciences,

also helped her cope with barriers in her teaching.

“My fear was Social Sciences. I had never done map work in my entire life, and here they showed us how to do it. It’s so interesting and so easy!”

Shahieda says that she’ll never stop learning from the PSP. “There’s always something new, always something challenging, and something interesting.”

She is quick to point out, however, that she has received much more than knowledge from the PSP. “I was always this timid and quiet person. This learning made me confident in my class and with my colleagues.” And she’s proud to say that this growth is reflected in her learners as well.



Background to PSP projects

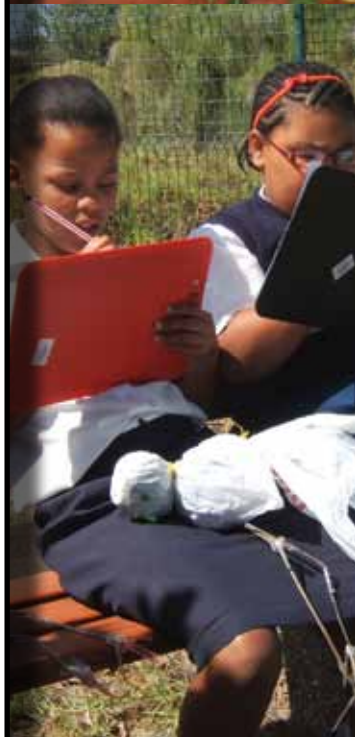
The Western Cape Primary Science Programme (PSP) is a non-profit organisation that aims at improving the quality of teaching and learning in disadvantaged primary schools by providing training and comprehensive support to teachers in the fields of Natural Sciences, Mathematics, Language, Social Sciences and Environmental education. The PSP develops teachers' knowledge and skills and offers a variety of teaching strategies for innovative classroom practice.

The PSP also creates and produces materials to support learning. These are distributed nationally.

The PSP is based at the Edith Stephens Wetland Park in Philippi, Cape and works with over 1 000 teachers each year from around 150 primary schools through a number of projects. This work includes:

- Developing and running training courses with large numbers of teachers
- Intensively supporting teams of science teachers in small clusters of schools
- Mentoring individual, newly qualified teachers in the classroom.

The PSP has been operating since 1984.



PSP PROJECTS

The PSP works through a number of projects, including:

INNOVATION PROJECT

The Innovation Project is a core project of the PSP that offers teachers an annual programme of short courses across the curriculum in Natural Sciences & Environment, Language & Literacy, Mathematics & Numeracy and Social Sciences. The programme of courses is drawn up according to the needs and requests from teachers at the PSP Annual Mass Planning Forum each year. The purpose of these courses, run in the afternoons or on Saturdays is to build teachers' content knowledge as well as to equip teachers with innovative teaching strategies. The PSP draws on this engagement with teachers to develop new resources to encourage classroom innovation in line with National Curriculum requirements.

CLUSTER PROJECT

The PSP Cluster Project is a collaboration with WCED Districts. This project works with small clusters of primary schools, selected by WCED Districts and offers cycles of in-depth training and support to teams of teachers from grades R – 7 on how to plan, teach, assess and manage the Natural Sciences curriculum at school. The PSP integrates this work with Language and Mathematics. It also provides resources to support teaching and learning in classrooms.

The project design includes school support visits each term to assist teachers with the implementation in class.

CAPE TEACHING & LEADERSHIP INSTITUTE (CTLI)

From 2005 the PSP ran the official WCED Natural Sciences training courses with Intermediate Phase teachers at the CTLI for four years. These were three and four week-long full-time courses for teachers, who were replaced in their classes for the duration of the courses. Over 50 teachers, drawn from all over the province, attended each of these courses. In the courses we combined the development of curriculum and concept knowledge with practical planning and assessment activities.

These case studies were researched with the help of volunteer students, Krista Osmundson and Zach Rose from the University of Kentucky in the United States. PSP is most grateful for their services and enthusiasm.

We also thank the teachers for giving their time and allowing us to tell their stories.

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Western Cape
Primary Science Programme

Edith Stephens Wetland Park
Lansdowne Road
Philippi 7785

PO Box 24158
Lansdowne
7779

Tel: 021 691-9039

Fax: 021 691-6350

e-mail: info@psp.org.za

website: www.psp.org.za



