A PROFESSIONAL DEVELOPMENT SCHOOL MODEL FOR THE DEVELOPMENT OF LITERACY TEACHERS

Dr RR Nathanson
University of Stellenbosch

Against the backdrop of persistently poor levels of literacy in our country, this article presents work done by university faculty, pre-service and in-service teachers to establish a professional development school (PDS) aimed at helping literacy educators meet the demands of teaching children in overcrowded, high-need schools. The purpose of this article is twofold: First, to describe two innovative features of the PDS model, namely tapping into pre-service teacher talents and using learning stations to individualise literacy instruction and, second, to demonstrate that the model leads to responsive teaching which contributes to raising students' reading levels. The article concludes by promoting the effectiveness of the PDS movement in educating teachers and contributing to student achievement.

INTRODUCTION

The focus of this article is the PDS model as means of improving teacher education and student achievement. It reports on a university-school partnership at a professional development school (PDS) site, which aims to improve teacher preparation, advance research in teaching practice and increase the reading and writing achievements of foundation phase children. Its purpose is to introduce the reader to how the PDS model enabled university faculty, in-service and pre-service teachers to work together to create supportive learning environments for school children. The article is organised into three sections. The first section emphasises the key role early literacy instruction plays in students' long-term academic success. It suggests that a PDS approach is a better alternative to preparing knowledgeable literacy teachers than traditional approaches to teacher education. The second section provides a general overview of literature on PDSs and the third section focuses on SU's partnership with a primary school in the Western Cape, South Africa. It investigates how the PDS partnership contributed to a more responsive teaching and learning cycle and links the knowledge gained in this endeavour to the PDS literature base.

GENERAL PROBLEM

Connell and Klem (2000:98) state that the long-term goal of schooling should be to help students make a 'successful transition to adulthood', which is marked by economic self-sufficiency, healthy human relationships and contributions to community. Reaching these long-term outcomes depends on how well students perform academically at school (Connell & Klem, 2000). The latter is largely determined by whether early schooling equips children with the foundational capabilities on which future academic learning rests (Clay, 1991;

Hoskyn, 2009:165; Fountas & Pinnell, 2009). Yet**,** a study released by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) indicates that

- the majority of students in low-income countries do not acquire basic reading skills even after four years of primary school.
- 10 million children in sub-Saharan Africa drop out of primary school every year.

They conclude that '171 million people could be lifted out of poverty if all students in low-income countries left school with basic reading skills' (UNESCO, 2011:1).

SPECIFIC PROBLEM

In South African the situation is equally grim. This is evident from the unacceptably low levels of literacy in primary schools throughout the country (WCED, 2006; Jansen, 2011). For example, the Western Cape Education Department (WCED) in 2006 characterised literacy levels in the majority of South Africa's primary schools as 'alarmingly poor' (WCED, 2006:4). In 2008, Fleisch reported that 75% of children from disadvantaged backgrounds had not attained basic reading skills in the instructional language of their schools, and, in 2011, the Department of Education (2011) revealed that the national average in literacy for Grade 3 learners was 35%. It is clear from these figures that the primary education system has failed its most vulnerable children (Fleisch, 2008; Howie *et al*., 2011).

The Western Cape Education Department (WCED, 2005:10) states that the drop-out and success rates are directly tied to the effectiveness (or otherwise) of the literacy instruction children receive in the first few years of schooling. Jansen (2011) points out that approximately 50% of all learners who enrol in Grade 1 reach Grade 12. Not surprisingly, Muntingh and Ballard's (2012:67) report on children in prison in South Africa states that access to basic education is a critical step in preventing children's involvement in crime.

The recognition that quality literacy instruction in the primary grades can make a difference in the lives of millions has prompted a global call for researchers working in school-based projects to share their collective learning (Kohlmoos & Kimmelman, 2009; UNESCO, 2011). They point out that current fragmented approaches to improving teaching and learning could lead to disappointment and cynicism among stakeholders, ultimately at the cost of those countries who would most benefit from school-based reforms (Connell & Klem, 2000, Kohlmoos & Kimmelman, 2009; USAID, 2011).

IMPLEMENTING MEANINGFUL CHANGE IN SOUTH AFRICAN SCHOOLS

Many in-service teachers in South Africa work in difficult and complex situations that undermine effective instruction and sustain persistent inequalities in education. In general, off-site, once-off teacher education programmes have not been successful in reducing school-based illiteracy (Review Committee, 2000; Feinberg, Dangel & Bohan, 2011). Given the complexities that teachers face, this paper endorses a professional development school (PDS) approach in which universities and schools work together to address the practical problems that teachers encounter and recommends it as an alternative to off-site programmes of teacher education. However, the 'labour-intensive nature' of implementing the professional development school approach, combined with institutional demands for faculty to publish,

have made research-driven universities slow to adopt a PSD approach to teacher education (Many & Bohan, 2011:vii).

Innovative solutions are obviously needed. One way to promote and sustain the PSD movement while answering the call for research-based publications is to ground research and theory in school-based practice and to disseminate findings on the 'research-practice interface' (Rosenfield & Berninger, 2009:9). However, this means confronting some to the challenges facing teacher education in schools and universities, as well as utilizing research in ways that 'improve school quality and educational practice' (Connell & Klem, 2000: 220). The following sections elaborate on these concerns.

TEACHER EDUCATION: PRE-SERVICE TEACHERS AS AN UNTAPPED RESOURCE

A key challenge that many primary phase South African teachers face is trying to meet the needs of large classes of underprepared children from different language backgrounds with limited resources and inadequate support (Nathanson, 2008). In addition, teachers struggle to implement, manage and sustain effective instruction in large classrooms filled with diverse learners. Unless ways are found to solve these problems, unacceptable levels of illiteracy is likely to remain an outcome of primary education. The article argues that, because children in the same grade do not all perform at grade level, a prescriptive, grade-level curriculum is not differentiated and responsive enough to address the varied needs of individual children.

By utilising the available resource pool of pre-service teachers, Stellenbosch University has developed an innovative solution to providing responsive instruction to individual children in large classes. However, as explained next, this meant changing the practical component of the University's teacher education programmes in ways that encouraged and supported the professional development of both pre-service and in-service teachers and that equipped them to deal with the demands of teaching in high-need schools.

The practical aspect of teacher education programmes for pre-service teachers tends to be driven by managerial approaches. Pre-service teachers are placed, one per classroom, in schools across the country where they deliver pre-prepared lessons specific to the grade level they are teaching. Lecturers travel from school to school to evaluate these lessons. The main purpose of this exercise seems to be providing pre-service teachers with a mark for their practicum. This system fails to energise or transform inefficient teaching practices, partly because pre-service teachers may be unable to resist the pressure of the existing school culture. They tend to adopt the status quo by reverting to established methods that are often not related to current, research-based approaches to literacy development (Joyce, Murphy, Showers & Murphy, 1991).

IN-SERVICE TEACHER EDUCATION: EMBEDDING TEACHER EDUCATION IN PROFESSIONAL DEVELOPMENT SCHOOLS

Similarly, professional development sessions for in-service teachers typically involve short-term workshops or lecture style sessions that are often unrelated to what is happening in teachers' classrooms and lacking in follow-up (Review Committee, 2000; Schwille & Dembélé, 2007). Teacher representatives from various schools are selected to attend these

sessions and pass on new information to their colleagues, frequently resulting in a misinterpretation or 'watering down' of critical information (Review Committee, 2000:55). Teachers are expected to implement the curricular reforms suggested by policy makers, often in crowded classrooms without adequate resources, leaving them feeling neglected and powerless to create positive learning environments for themselves and their pupils (Schwille & Dembélé, 2007). In general, dominant forms of in-service teacher preparation programmes are characterised by a lack of system support, coherent infrastructure, systematic follow-up and feedback (Darling-Hammond, 2000; Swart, 2010). Mostly, these programmes do not lead to long-term improvement in the quality of teaching. Instead, such programmes have been widely criticised for being an ineffective, inefficient waste of human and fiscal resources (Darling-Hammond, 2000; Feinberg, Williams, Taylor, Curry, Matthew & Black, 2011.). What are needed are teacher education models that are focused on the problems of practice and are driven by continual change in schools (Rosenfield & Berninger, 2009; Brown, Molfese & Wagner, 2009; Ogletree, 2011).

PROFESSIONAL DEVELOPMENT SCHOOL MODEL: A VEHICLE FOR CHANGE.

As mentioned earlier, the vehicle of change advocated in this paper is a professional development school model that enables university faculty, in-service and pre-service teachers to work together to improve literacy instruction in low-performing schools (Ariail, Dooley, Swarts & Smith, 2011).

The National Council for Accreditation of Teacher Education (NCATE) (2013:1) defines Professional Development Schools (PDSs) as innovative institutions formed through partnerships between professional education programmes and schools. PDS partnerships aim to improve the quality of both teaching and learning by supporting professional learning in the real-world setting in which practice takes place.

> The preparation of teacher candidates, professional development for practicing teachers, and research helps all students learn. Students benefit because the knowledge, skills, and resources of both university and school are focused on meeting their needs. Students also benefit from teacher interns, mentor teachers, and university faculty who play active roles in the PDS setting. PDSs are extremely important in enhancing teacher quality and student achievement in urban schools with high needs populations. (NCATE, 2013:1)

In a similar vein, Feinberg, Dangel and Bohan (2011:147) describe a professional development school as a 'natural setting in which to examine and reflect on change, including the successes and struggles related to the context'. Thus, in contrast to traditional approaches for professional development outlined earlier, PDSs afford university and school partnerships teaching and learning experiences that are 'relevant, ongoing, sustained and job-embedded' (Feinberg, Williams, Taylor, Curry, Matthews & Black, 2011: 130).

Another difference between traditional and professional development approaches is that the latter responds to the need for relevant research that can support decision making, transparency and accountability in education (Klapwijk, 2011; USAID, 2012). Although educational literature regularly cites the importance of using research to improve policies,

instructional practices and student learning, Kohlmoos and Kimmelman (2009: 217) point out that the field of education does not use research systematically or effectively. They provide several reasons why translating research into practice has been largely unsuccessful.

First, educational research, policy and practice tend to function independently of one another. Second, the different contexts in which educational innovations are implemented make it difficult to separate the effects of reforms from the effects of the contexts in which reforms are implemented. Third, the focus has been on identifying and dissemination research-based practices rather than on transferring and improving the use of knowledge in schools. This has led to a linear model of knowledge utilisation i.e. research generates information; educators implement programmes based on that information and these programmes lead to improved student achievement (Kohlmoos & Kimmelman, 2009: 218-219). Kohlmoos and Kimmelman, (2009: 219) contend that it is the one-way nature of this linear model that prevents research from benefiting student learning. In order to shape research in ways that will improve practice and student learning, they recommend 'substantive collaboration' between researchers, policy makers and practitioners (Kohlmoos & Kimmelman, 2009: 219). It is therefore not surprising that they call attention to the need for a more systematic process and supportive structures to encourage practitioners to use research. Furthermore, they recommend that research projects should enable teachers to shape studies in ways that improve educational practice (Kohlmoos & Kimmelman, 2009: 220).

In the PDS the close co-operation between researchers and school staff creates a demand for research that targets problems identified by school staff and acts as an incentive for researchers to ensure the relevance of their work. In addition, PDSs are natural settings for demonstrating how theory works within actual practice (Feinberg, Dangel & Bohan, 2011). Natural settings lend themselves to informal interactions that make it possible for educators to share tacit knowledge, thereby shaping implicit thinking patterns that are critical for lasting school reform (Kohlmoos & Kimmelman, 2009: 220-224).

CONCEPTUAL FRAMEWORK AND THEORY OF CHANGE

Earlier it was mentioned that teachers in South Africa work in complex situations which make it difficult for them to accomplish everything that is expected of them on their own. This project was designed to provide school level support that would enable teachers to improve their practice and meet the needs of learners more effectively. It was argued that a PDS approach in which knowledge is put into use for particular groups of people within a particular school context will be more effective than a traditional, fragmented approach to teacher education. Curlette and Ogletree (2011) expressed the opinion that PDS activities should aim at strengthening teacher preparation and on increasing student achievement. In our case, our PDS activities were directed at supporting the professional development of literacy teachers with the aim of increasing literacy levels in a Professional Development School Class (PDSC). This required establishing a framework for change to facilitate a different type of relationship between the school and the university and to link our reform initiative to an established knowledge base.

Connell and Klem's (2000) 'change framework' offers a useful means for linking PDS agendas to a credible knowledge base. Their 'theory of change' defines how and why an initiative works. They add that change should be plausible, doable, testable, and meaningful.

It is *plausible* if 'the logic of the model is correct' i.e. doing certain things will lead to expected results; *doable* if there are sufficient resources for implementing it; *testable* if there are credible ways to assess results and *meaningful* if participants perceive the outcomes as worth the effort (Connell & Klem, 2000: 94-95). In a similar vein, Curlette and Ogletree (2011: 120-121) provide three key elements for 'anchoring' separate projects together into a cohesive body of evidence. These are: commonalities among studies in methodology, primarily quasi-experimental designs; use of a general construct underlying outcome measures, typically defined as student academic achievements; and attention to inquiry and data interpretation, often based on investigating changes in instructional practices.

The next section provides some background to our PDS project and links the local experience we gained to the above-mentioned principles as follows: it was doable because it had funding and sufficient resources to implement the project, it was anchored in a plausible quasi-experimental research design; it used pre-and post- tests to assess student outcome measures and qualitative data to assess whether the investigation was worth the effort in terms of teacher buy-in and student engagement.

SCHOOL CONTEXT AND BACKGROUND TO THE PDS INITIATIVE

In 2010-2011 a grant from a private local funder enabled staff at the Faculty of Education at Stellenbosch University (SU) and a local school to form a PDS partnership aimed at improving literacy teaching and learning in a local school. This made the PDS project doable in terms of human and financial resources (Connell & Klem, 2000). The school was an Afrikaans-medium primary school in the Western Cape where most of the students were eligible for free meals. The literacy levels were below the progress goals set for the school by the WCED.

Prior to the formalisation of the PDS project, staff from SU had formed a working relationship with the school, which led to the planning of the PDS project. In 2010 the school's foundation phase teachers attended literacy workshops offered by the WCED. The workshop content covered Shared Reading and Writing; Guided Reading; and Phonics instruction. These approaches required teachers to move away from viewing reading as a set of isolated facts to viewing of reading as an active 'message-getting, problem-solving activity that increases in power and flexibility the more it is practiced' (Clay, 1991: 6). However, classroom observations revealed that teachers had varied interpretations and understandings of the content covered in the workshops. Moreover, they struggled to implement new approaches in large classes with inadequate resources. During small-group reading instruction teachers were constantly interrupted by other children in the class who were bored and not used to working independently. Consequently, teachers preferred whole-class, teacher-dominated instruction, partly because this style of teaching made it easier for them to manage their large classes.

In consultation with the school staff, a core group of people formed a PDS team who worked together as a 'community of professionals' to help raise literacy levels in the school. In the short term, the team decided to concentrate the project efforts and resources in one Grade 1 class at the school, before expanding to other foundation phase classrooms in the following year. Children in the Grade 1 classroom typically scored below grade level in reading and language arts. The project team consisted of a teacher who had been teaching Grade ones in

the school for several years, the author of this article, who was a lecturer in language and literacy at SU, a school-based literacy co-ordinator who helped with the administration of the project and five pre-service teachers in their fourth year of study at SU.

OVERVIEW OF THE LITERACY INTERVENTION IN THE PDS

The PDS intervention consisted of approximately three phases, namely, pre-intervention assessment phase (February), an implementation, observation, and support phase which took place in the Professional Development School Class (PDSC) (March-September) and a post-assessment, data analysis and project evaluation phase (October).

The literacy curriculum that was implemented in the Grade 1 classroom was designed round the Curriculum Assessment Policy Statements (CAPS), which the Western Cape Education Department (WCED) introduced in primary schools in 2011. The author's role as SU faculty member was to conduct research and to supplement the training provided by the WCED with classroom support, learning materials, lesson feedback and discussion of student-related data. As mentioned earlier, the large class made it difficult for the teacher to work with small groups of children without interruptions. Furthermore, a survey of the students' workbooks showed that the high-achieving group progressed quickly on classroom tasks, but the low-achieving group seemed to make little progress. It was clear that we had to lower teacher-to-student ratios to provide more responsive instruction which would also benefit the lower group.

To achieve this, the project team set up learning stations in the class and placed six to eight children at each learning station. The teacher agreed to move away from predominantly whole class teaching to instructing smaller groups of children at learning stations. However, although the learning stations provided the opportunity for more responsive teaching that suited children who were progressing at different levels, the problem remained that the teacher could not dedicate undivided attention to each group. Maintaining classroom discipline, while working with one group or circulating between groups, was difficult. Another problem was that there were not enough materials (e.g. alphabet letters, word cards, poems) to keep children engaged in the learning activities at the stations.

To overcome these problems, SU provided a cohort of five pre-service teachers to teach in the Grade 1 classroom during their nine-week practicum. Thus, in the second semester of the school year, one pre-service teacher was placed at each learning station in the class for a period of 1 to 2 hours each day, thereby making it possible to provide learners with individualised instruction within a small-group setting and enabling the classroom teacher to focus her attention on the children she was teaching.

Thus, while the classroom teacher conducted Guided Reading, small groups of children worked intensively with a pre-service teacher at a learning station. Activities at the learning stations consisted of letter/sound and word-level work; interactive writing; and reading activities such as stories, poems and rhymes. In addition, the pre-service teachers encouraged children to write their own stories, using pictures and photos of the children, which were taken with cell phones, as prompts for writing. Based on their observations of the children at learning stations, the pre-service teachers designed a variety of different literacy-based resources to keep the children involved in learning at each station. They also helped the

children to establish routines and to work independently. When their practicum ended, the classroom teacher commented that she was so impressed with the progress her class was making that she had decided to keep the learning stations as a permanent feature in her classroom. Therefore, although the project was situated within a PDS framework, it introduced an innovative transformation in the way it drew upon the hitherto untapped resource of Stellenbosch University's pre-service teachers.

Another strategic aspect of the project was that pre-service teachers in the PSD project worked collaboratively with school teachers and university faculty in a continuous cycle of applying knowledge; identifying barriers to student achievement; generating solutions; and evaluating their effectiveness. This capacity-building process is different from the traditional approach in which a pre-service teacher prepares and presents a once-off lesson for a lecturer to evaluate. In addition to small-group teaching at learning stations, pre-service teachers developed reading and learning materials based on their observations of students at the learning stations. They also conducted student assessments; did whole class and one-to-one teaching; collaborated in lesson planning; and engaged in shared reflection.

One of the criticisms levelled at the traditional teacher education model is that it fails to help pre-service teachers translate concepts learned in methods courses into their practicum work in school classrooms (Ariail *et al.,* 2011). Because the pre-service teachers who were selected to participate in the project were in the fourth year of their university studies, they were familiar with the research and theory base supporting literacy instruction in the project. Thus, a third vital aspect of the PDS approach was that it facilitated 'congruence of messages' between school and university contexts (Ariail *et al.*, 2011: 55).

Lastly, another difference between traditional and PDS approaches to teacher education is that the latter encourages practitioners to understand the connection between research and practice. The following sections discuss the research design; methodology and results; and its implications for teacher education.

RESEARCH DESIGN AND METHODOLOGY

To balance the need for research that is both practical and of good quality, a plausible, mixed methods research design combining test score data with qualitative observational methods was used (Connell & Klem, 2000; Curlette & Ogletree, 2011). Student outcome measures were evaluated by means of a pre-test and post-test. To help us interpret the student achievement in the project classroom, a teacher in another Grade 1 classroom volunteered to let her class act as a control group, provided that they were given the opportunity to become part of the project in the following year. A qualitative component was added to the design to describe the experiences of the teachers in the PSD team. These data included observational notes, student and teacher artefacts, and transcripts of discussions with teachers. Permission to conduct research was obtained from the WCED, the school principal, the school staff, the children and their parents.

RESEARCH QUESTION AND AIMS

Given that the main aim of the project was to investigate whether a PDS approach would lead to more responsive teaching that would contribute to the reading and writing achievements of children in a Grade 1 classroom we wanted to know

(a) what progress the children in the Literacy Project made in selected literacy tasks compared to the control group, and
(b) whether the PDS approach facilitated the teacher's capacity to provide responsive instruction and contributed to students' level of engagement in learning.

INSTRUMENTS

The following three assessment tasks, based on everyday classroom activities, were used to gather pre- and post-test data about children's reading-related abilities before and after the intervention: a word test, consisting of fifteen 'high-frequency words that occur in the reading materials' used in the classroom (Clay, 2002: 91); a writing vocabulary task which records the number of words a child can generate and write correctly given a time limit of ten minutes; and a running record, which provides insights into a child's reading behaviours and the book level which is appropriate for a particular child at a particular point in time. The tests were administered individually to children by the researcher and the literacy co-ordinator and were scored according to systematic observation procedures (Clay, 2002; Fountas & Pinnell, 2010).

PARTICIPANTS

In February, after the children had settled into their classrooms, baseline data were obtained from a sample of 12 children in the PDS class and 12 children in the control class. The pre-tests revealed that both groups of children started Grade 1 at a level of zero on each of the aforementioned assessment tasks, namely, the word test, the writing vocabulary task and the running record. Given that the children entering Grade 1 in the project school do not come from a background of learning, these results were not unexpected.

From March to September, the PDSC received classroom support and teaching assistance. The control group did not. In October, post-tests were conducted in both the PDSC and the control class.

RESEARCH RESULTS, INTERPRETATION AND RECOMMENDATIONS

The next sections outline the research results and interpretation of the quantitative data that were obtained from the Literacy Project group in the PDSC and the Control Group, followed by the results and interpretation of the qualitative data obtained from classroom observation, field notes, informal discussions and work samples produced by the Grade 1 learners.

QUANTITATIVE DATA

Table 1 below shows the post-test results: The average test scores for the literacy project group vs the control group. Tests for statistical significance and effect size follow in Tables 2 and 3:

INTERPRETATION OF THE STATISTICAL RESULTS

The post-test average scores for both groups are reported in Table 1. In addition to the overall average scores for the groups, the table includes the scores achieved by the children in the top third, middle third and lower third of the literacy project group and the control group.

Table 1. Average Test Scores for Literacy Project vs Control Group
            October 2011

Group	Word Test	Writing Vocab	Book Level
Literacy Project	**14.08**	**38.67**	**7.00**
Top Third	15	57.25	10.5
Middle Third	14.25	33.75	5.5
Lower Third	13	25	5
Control	**7.75**	**21.25**	**2.17**
Top Third	12.25	33.25	5.75
Middle Third	9.25	23.25	0.75
Lower Third	1.75	7.25	0

The results are significant in that they demonstrate (a) that the literacy project group outperformed the control group in all three tests; (b) that the gap between the middle and lower thirds of the literacy project group is narrower than the gap between the middle and lower thirds of the control group; and (c) that the lower third of the literacy project group outperformed the overall average of the control group. This is important because it demonstrates that the literacy project improves the performance of not only the high achievers, but of the lower achievers as well.

Both the Student's t-test and Cohen's d indicate that the results presented below are statistically significant. Cohen's d, in particular, illustrates the scale of the difference between the two groups.

Table 2. Student's t for Literacy Project vs Control (Statistical Significance)

	t	Interpretation
Word Test	4.17	Statistically significant at 0.1% level
Writing Vocab	2.74	Statistically significant at 2% level
Book Level	3.36	Statistically significant at 1% level

Table 3. Cohen's d for Literacy Project vs Control (Effect Size)

	d	Interpretation
Word Test	1.7	95% of LP above control group mean
Writing Vocab	1.1	86% of LP above control group mean
Book Level	5.3	100% of LP above control group mean

Clay (2002: 6) cautions against making predictions for individuals from average scores because predictions based on group data can be wrong for individual children. This point of view is demonstrated by the range of scores obtained by children in the two PDS classrooms, which is provided in Table 4.

Table 4. Range of scores in the project and control groups

Tests	Score Range PDSC Group	Score range Control Group
Word test	10-15	0-13
Writing Vocabulary	17-66	0-41
Running Record	3-16	0-11

From the raw scores in Table 4 it is clear that there are large differences between the high- and low-performing children in each class, particularly in the control group. The practical implications of this are that each teacher is teaching a mixed grade class, because some children are functioning at grade level while others are not. This implies that the teacher cannot work with the class as a single group, which is what the traditional approach prescribes. The higher score range obtained by the PDSC can be attributed partly to the individualised attention the children received from the pre-service teachers. Another implication is that each classroom needs a range of easy to more difficult books to accommodate the different reading levels, because many children are not reading at grade level

QUALITATIVE DATA

Using examples from work done in our PDSC, this section uses the following indicators to evaluate whether the PDS project was meaningful and worth the effort, namely, (1) did instructional strategies lead to higher levels of teacher-learner interaction and learner engagement? (2) did teacher buy-in, confidence and motivation increase? In instances where the teacher's comments are quoted in Afrikaans, the English translations are provided in brackets.

LEARNING STATIONS CHANGE TEACHER'S INTERACTION WITH LEARNERS

Pre-scripted, whole-class instruction does not accommodate the diversity or 'natural variability' which is inevitable in large classes (McEneaney, Lose & Schwartz, 2006: 121). From classroom observations and discussions with the teacher, it was clear that the

introduction of learning stations helped the teacher change from teacher-dominated, whole-class instruction to interacting with individual children in a small-group context. As a result of working with small numbers of children, both the classroom and pre-service teachers came to know each child they were teaching, which meant they could match instruction to children's current learning levels. The classroom teacher stated emphatically: *Ek ken nou my kind* [Now I know my child].

The pre-service teachers responded to the need for learning materials by making resources that matched children's levels of competence. Because instruction and activities were more individualised, children began to take ownership of their own learning. Their teacher commented that it was only after working with pre-service teachers at learning stations that her children started working independently. Previously, when she was trying to work with one group, other children would come and bother her. She attributed the change in children's behaviours to the confidence they gained and the routines they learnt at the work stations. Because children were actively engaged in a variety of interesting activities at the learning stations, they stopped interrupting her when she was busy with another group. This made it easier to maintain discipline: *Hulle kom nie meer 'Juffrou, juffrou' nie*. [They don't call 'Miss, miss' all the time]. She explained that she no longer had to resort to shouting at the children. In her own words: *Daar is a groot verskil in die kinders. Hulle is nie meer bang soos in die verlede nie* [There is a big difference in the children. They are not afraid as in the past anymore].

From field notes and discussions it was clear that one of the things that excited teacher the most was the improvement in her children's writing. She was surprised that, by midyear, her children were able to write extensively on topics of interest. In her years of teaching Grade 1's at the school, that had never happened before. Classroom observations before the implementation of the PDS literacy project showed that writing instruction consisted mainly of children copying teacher-produced sentences from the board. These sentences were contrived subject-verb-object type sentences consisting of monosyllabic words. Any sentence could be moved to any position in the story without affecting the structure or changing the overall meaning. The purpose of this copying exercise was to ensure accuracy and faultless spelling. Children often numbered these sentences, which highlighted the contrived disconnected nature of the sentences, which were simply added to one another without concern for narrative structure.

Table 5. Children's 'own' sentences copied from the board

My eie sinne	*[My own sentences*
Hy skop die bal.	*He kicks the ball.*
Hy staan op die mat.	*He stands on the mat.*
Hy sit op die stoel.	*He sits on the chair.]*

Not surprisingly, baseline data produced no evidence that children were aware of narrative structure. Their written productions were characterised by a lack of individuality and learner 'voice'. Thus, we introduced many opportunities for authentic writing at the learning stations.

We provided pictures and photos of the children (taken with cell phones) for children to use as prompts for writing. McCarrier, Fountas and Pinnell (2009) and Clay (2001) emphasise the motivational value of self-composed messages. On the project, message quality improved as children took ownership of the writing process and attempted to record their own ideas. In contrast to writing based on copying or memorisation, children wrote personal narratives with developed storylines. As demonstrated by the extract in Table 6, they started using a variety of sentences and new words that were previously not part of the 'known' vocabulary (Foley & Thompson, 2003: 119).

Table 6. Extract from a story written by a Grade 1 learner in May 2011

My geskenk	**My present**
Op my sesde verjaarsdag het my ouma vir my 'n pienk fiets gekoop.	[On my sixth birthday my granny bought me a pink bicycle.
Ons het die winkels ingevaar. Opsoek na 'n pienk fiet.	We invaded the shops in search of a pink bicycle.
Uiteiendelik het ons die geskikte een gekry.	Eventually we found the right one.
Ek was so opgewonde oor my nuwe pienk fiets!	I was so excited about my new pink bicycle!]

TEACHER 'BUY-IN', CONFIDENCE AND ENABLEMENT

Teacher support is a key element in the successful implementation of school reform models (Caswell, 2002; Turnbull, 2002). A number of studies have investigated what factors influence teacher support. Caswell (2002:1) found that the 'largest and most statistically significant predictor of teacher buy-in' was the extent to which teachers think a professional development model had a positive impact on student learning. It was therefore motivating to know that the teacher thought that the children participating in the project were '*doing much better than children she had taught in previous years*'. Her confidence in her teaching ability grew as she witnessed the improvement in her children's learning. She no longer felt that her teaching was irrelevant. Delegates from the WCED visited her classroom and expressed their approval of the 'industrious work atmosphere' in the class. She confided that, for the first time in her teaching career, she welcomed visitors in her class.

Another factor which influences teacher buy-in is the level of classroom support teachers received (Caswell, 2002). Turnbull (2002: 1) made the point that participatory governance models tended to place unrealistic demands on teachers. These models require teacher participation in school-level decision-making processes, which often reduces teacher time in the classroom and decreases commitment from teachers who are already overworked and consumed with the day-to-day classroom responsibilities. One of the successes of the project was the level of classroom support it provided the teacher. She repeatedly expressed her appreciation for the time and materials the pre-service teachers invested in the project and the learning opportunities this opened up for her. Similarly, the pre-service teachers found the practical experience they gained invaluable and their contribution to children's progress in literacy rewarding. Both parties expressed the desire for continued, large-scale implementation of the PDS approach to in-service and pre-service education.

However, although the data indicate that all children in the PDSC were benefitting from the literacy project, there were large differences between the highest and lowest performing children in each class. Therefore, it was evident that the lowest achieving children needed more individualised teaching and continued support in reading and writing continuous texts. Discussions with the teacher indicated that she believed that the low performers were too far behind to benefit adequately from instruction in a large classroom. They rather 'kept the rest of the class back' by disrupting classroom procedures and preventing her from giving full attention to her top and middle groups. In her opinion, the lowest achieving children needed an early intervention to supplement classroom teaching. This viewpoint is consistent with Clay's (2001) finding that supplementary tutoring in the early years of schooling was the most effective way to prevent low-achieving children from developing 'a pattern of reading failure' that could last a lifetime.

Finally, Caswell (2002:2) also reported that 'teachers would "buy in" if they were empowered' to make decisions on issues that were important to them. Similarly, Kohlmoos and Kimmelman (2009) found that teachers were less likely to fall back on prescriptive measures and familiar habits if they felt they could significantly change their own practices and contexts. Towards the end of the year, when the PDS team and school staff evaluated the project, this appeared to be the case: The project teacher seemed to recognise her power to transform practice and decision-making in the school. For example, she expressed her concern that the hard work she was doing in Grade 1 would be wasted if teachers in the higher grades did not continue teaching the way she did in her classroom. She stated that she found teaching much more satisfying and that the change in her learners made her realise that change started with her: she could improve by reflecting on her own teaching: *Ek besef verandering begin by my* [I realise change starts with me]. She began sharing her insights and experiences with her fellow foundation phase teachers. Together they started shaping the PDS partnership for the following year. One of the decisions they took was to ask the principal to write a letter to SU requesting more pre-service teachers (15-20) so that Grades 1-3 could have a cohort of students helping them in their classrooms.

In addition to their roles teaching language and literacy activities at learning stations, the teachers wanted pre-service students to help with numeracy. So it was decided to incorporate literacy materials that taught early maths concepts in the learning stations. The Grade 2 and 3 teachers specifically wanted SU student teachers to help them teach concepts that their children were struggling with, e.g. time and money. To make this possible, they suggested working out a timetable for placing the SU students in different classes in the following year.

During the year they had received visitors from other schools, but they expressed their need to visit other schools and benefit from innovative methods that were being put into practice elsewhere. Hence, the PDS team arranged a visit to a private school where they observed a teacher conducting an iPad lesson with Grade 1 children. This opened up the possibility of starting a similar project in their school in the future.

Joyce *et al.* (1991:193), however, point out that teacher 'buy-in' is only one factor in successful reforms and that teachers will 'surely return to their previous states fairly rapidly unless they are well-supported'. From our field notes and classroom observations it was evident that workshops on their own did not guarantee fidelity in classroom implementation. The PDSC teacher, however, was adamant that she would never return to her old way of

teaching, because she could definitely see the progress her children were making compared to previous years. Moreover, she found the children's responsiveness to her interactive teaching style motivating.

LIMITATIONS

The research was conducted in a situation where there was an interplay of many variables. To complicate matters further, the intervention was based on a problem-solving cycle in which a number of different things were introduced and modified as time went by and problems became apparent. This meant that we changed more than one variable to arrive at a workable way of implementing and managing change. For example, the initial intervention which attempted to introduce small-group reading and writing into the classroom schedule did not work well, partly because large classes made it difficult for the teacher to maintain control of her classroom and provide students with individualised instruction. Thus it took time to develop a workable solution to problems that arose as the project progressed e.g. utilising pre-service teachers to work with small groups of learners. For these reasons, the research reports on a modified intervention. Because many variables made it difficult to establish causation, the qualitative data obtained from teacher perceptions played an important role in deciding whether or not the project was worth the effort. Furthermore, a PDS project needs to be flexible, because different teachers have different reasons for partnering with a university and might prefer different forms of support, e.g. not all teachers may want a group of pre-service teachers in their classrooms.

RECOMMENDATION

Based on the data obtained in our study, this article recommends moving teacher education toward a collaborative PDS model in which universities and schools share the common goal of improving teacher education and student achievement. However, sustaining these changes requires support from all stakeholders at school, university and district level. Connell and Klem (2000:219) have noted that policymakers continue to underestimate 'what it a takes to transfer, apply and manage scientifically based knowledge in specific circumstances and contexts'. It will require resilience and persistent advocacy to overcome bureaucratic inertia and 'mobilize the political will for substantive change' (Connell & Klem, 2000:228.)

REFERENCES

ARIAIL, M, C DOOLEY, S SWARS & L SMITH. 2011. Possibilities for clinical teacher education: four stories of field-based courses taught at professional development school sites. In Bohan, C & J Many (Eds), *Clinical teacher education: reflections from an urban professional development school network,* pp. 55-73. Charlotte, NC: Information Age Publishing.

BROWN, ET, VJ MOLFESE & MC WAGNER, 2009. Role of teacher practices and characteristics in implementing research in preschool and early childhood classrooms.

In Rosenfield, S & V Berninger (Eds), *Implementing evidence-based academic intervention in school settings,* pp. 417-442. New York: Oxford University Press.

CASWELL, L. 2002. *Teacher buy-in to a whole school literacy reform model: what predicts successful buy-in to literacy collaborative?* [Online]. Available: http://www.literacycollaboratvie.org/ [2011, 22 February].

CLAY, M. 1991. *Becoming literate: the construction of inner control.* Auckland: Heinemann.

CLAY, M. 2001. *Change over time in children's literacy development.* Auckland: Heinemann.

CLAY, M. 2002. *An observation survey of early literacy achievement.* 2nd edition. Auckland: Heinemann.

CONNELL, JP & AM KLEM. 2000. You can get there from here: using a theory of change approach to plan urban education reform**.** *Journal of Educational and Psychological Consulting,* 11(1):93-120.

CURLETTE, W & A OGLETREE. 2011. An approach to increasing student achievement: teacher-intern-professor groups with anchor action research. In Bohan, C & J Many (Eds), *Clinical teacher education: reflections from an urban professional development school network,* pp. 117-127. Charlotte, NC: Information Age Publishing.

CURRICULUM ASSESSMENT AND POLICY STATEMENTS (*CAPS*). 2011. South African Department of Basic Education.

DARLING-HAMMOND, L. 2000. How teacher education matters. *Journal of Teacher Education*. 51(3):166-173.

DEPARTMENT OF EDUCATION. 2011. *Report of the annual national assessments of 2011.* Pretoria: Government Printer.

FEINBERG, J, B WILLIAMS, D TAYLOR, K CURRY, L MATTHEW & L BLACK. 2011. Making a difference in teacher development and high quality teaching. In Bohan, C & J Many (Eds), *Clinical teacher education: reflections from an urban professional development school network,* pp.147-159. Charlotte, NC: Information Age Publishing.

FEINBERG, J, J DANGEL & C BOHAN. 2011. Partnership building in the context of change. In Bohan, C & J Many (Eds), *Clinical teacher education: reflections from an urban professional development school network,* pp. 147-158. Charlotte, NC: Information Age Publishing.

FLEISCH, B. 2008. *Primary education in a crisis*. Cape Town: Juta.

FOLEY, J & L THOMPSON. 2003. *Language learning. A lifelong process.* New York: Oxford University Press

FOUNTAS, I & G PINNELL. 2009. *Leveled literacy intervention*. Portsmouth, NH: Heinemann.

FOUNTAS, I & G PINNELL. 2010. *A guide to benchmark assessment system 1*. Portsmouth: Heinemann.

HOSKYN, M. 2009. The prevention science perspective: early intervention research on literacy, mathematics, and social competence. In Rosenfield, S & V Berninger (Eds*), Implementing evidence-based academic intervention in school settings,* pp. 165-212.

New York: Oxford University Press.

JANSEN, J. 2011. *Jonathan Jansen calls for campaign to get children reading and improve literacy* [Online]. Available: http://panmacmillan.bookslive.co.za/blog/2011/07/07/jonathan-jansen-calls-for-campaign-to-get-children-reading-and-improve-literacy [2011, 13 August].

JOYCE, B, C MURPHY, B SHOWERS & J MURPHY. 1991. School renewal as cultural change. In Ainscow, M (Ed), *Effective schools for all,* pp. 181-194. London: David Fulton.

KLAPWIJK, N. 2011. Cloze tests and word reading tests: enabling teachers to measure learners' reading-related abilities. Stellenbosch University: in print.

KOHLMOOS, J & P KIMMELMAN. 2009. Toward a new era of knowledge use in education: National challenges and opportunities. In Rosenfield, S & V Berninger (Eds), *Implementing evidence-based academic intervention in school settings,* pp. 217-232. New York: Oxford University Press.

MANY, J & C BOHAN. 2011. Introduction. In Bohan, C & J Many (Eds), *Clinical teacher Education: Reflections from an urban professional development school network*, pp. vii-xiii. Charlotte, NC: Information Age Publishing.

MCCARRIER, A, G FOUNTAS & I PINNELL. 2000. *Interactive writing.* Portsmouth: Heinemann.

MCENEANEY, J, MK LOSE & RM SCHWARTZ. 2006. A transactional perspective on reading difficulties and response to intervention. *Reading Research Quarterly,* 41(1):117-128.

MUNTINGH, L & C BALLARD. 2012. *Report on children in prison in South Africa*. Cape Town: Community Law Centre.

NATHANSON, R. 2008. *A school-based, balanced approach to early reading instruction for English additional language learners in grades one to four*. Unpublished Doctoral dissertation. Stellenbosch University.

NCATE (National Council for Accreditation of Teacher Education). 2013. *Professional development schools* [Online]. Available: http://www.ncate.org/Public/AboutNCATE/tabid/179/Default.aspx [2013, 3 November].

OGLETREE, S. 2011. Professional Development Schools: history, development and current research. In Bohan, C & J Many (Eds), *Clinical teacher education: reflections from an urban professional development school network,* pp. 15-32. Charlotte, NC: Information Age Publishing.

HOWIE, S, S VAN STADEN, M TSHELE, C DOWSE & L ZIMMERMAN. 2011. *Progress in international literacy study (PIRLS)* [Online]. Available: www.pirls.bc.edu/pirls2011/intl_rpt.html [2012, 6 January].

REVIEW COMMITTEE (Report of the review committee on curriculum 2005). 2000. *A South African curriculum for the twenty-first century.* Report presented to the Minister of Education, Pretoria.

ROSENFIELD, S & V BERNINGER. 2009. Introduction. In Rosenfield, S & V Berninger

(Eds), *Implementing evidence-based academic intervention in school settings,* pp. 3-11. New York: Oxford University Press.

SCHWILLE, J & M DEMBÉLÉ. 2007. *Global perspectives on teacher learning: improving policy and practice.* Paris: UNESCO: International Institute For Educational Planning.

SWART, M. 2010. *Adapting instruction to meet the individual needs of foundation phase readers and writers*. Unpublished doctoral dissertation. Stellenbosch University.

TURNBULL, B. 2002. Teacher participation and buy-in: implications for school reform initiatives *Journal of Learning Environments Research,* 5(3):235-252.

UNESCO. 2011. *Education is the key to lasting development* [Online]. Available: www.unesco.org [2012, 4 February].

USAID. 2007. *Education strategy. Improving lives through learning* [Online]. Available: http://www.ungei.org/resources/files/usaid_education_policy05.pdf [2010, 4 February].

WESTERN CAPE EDUCATION DEPARTMENT (WCED). 2005. *Human resource development 2010*. Cape Town: Edumedia.

WESTERN CAPE EDUCATION DEPARTMENT. 2006. *WCED Literacy and Numeracy Strategy 2006 - 2016.* Provincial Government Printer.

BIOGRAPHICAL NOTE

Renee Nathanson is a lecturer in the Faculty of Education at Stellenbosch University. Her interests include implementing literacy interventions in Professional Development Schools and using iPads in education.

Email address: rrn@sun.ac.za