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Lesson study in continuing professional teacher development: a South African case study

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The implementation of successful continuing professional teacher development (CPTD) programmes has been a challenge in South Africa since the introduction of Curriculum 2005. Lesson study, a CPTD model introduced in Japan and not previously investigated in South Africa, has shown success in bridging the gap between policy at the national level and teaching at the classroom level. A qualitative research study conducted in a rural primary school in the Western Cape province sought to determine the value that a group of teachers would place on the process of lesson study as a model for their own learning and instructional improvement. The findings highlight several areas where lesson study as a dynamic model can be considered an effective CPTD programme within the South African context.

Lesstudie in voortgesette professionele ontwikkeling van onderwysers: 'n Suid-Afrikaanse gevallestudie

Die implementering van suksesvolle voortgesette professionele ontwikkelingsprogramme (VPO) is sedert die implementering van Kurrikulum 2005 in 1998 'n uitdaging binne die Suid-Afrikaanse konteks. Lesstudie as VPO-model wat in Japan ontstaan het en nog nie voorheen in Suid-Afrika ondersoek is nie, lewer bewys dat hierdie model of benadering kan bydra om die gaping te oorbrug tussen beleid wat op nasionale vlak ontwerp word en onderrigleer wat op klaskamervlak plaasvind. 'n Kwalitatiewe navorsingsprojek is in 'n landelike primêre skool in die Wes-Kaap uitgevoer. Die doel was om die waarde wat 'n groep onderwysers aan lesstudie as 'n model vir hul eie leer en onderrigontwikkeling sou heg, te bepaal. Die bevindinge beklemtoon verskeie aspekte waar lesstudie as dinamiese model 'n bydrae kan lewer tot die voortgesette professionele ontwikkeling van onderwysers.

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SUN MEDIA BLOEMFONTEIN

The teaching culture in many countries, including South Africa, has traditionally been one of isolation.[1] Once teachers enter the classroom, the tendency is to close the door and leave it that way. Although peer collaboration could be a means to address this phenomenon, continuing professional teacher development (CPTD) programmes have not succeeded in bringing teachers out of isolation to collaborate with their colleagues in a meaningful manner (Lam *et al* 2002). Although numerous CPTD programmes are offered as a means of bringing teachers together to collaborate about their practice, the participants use little of what is presented in these workshops or conferences to improve instruction in the classroom.[2] Although the collaborative environment at many CPTD workshops may encourage a feeling of community, research suggests that teachers need to approach collaboration by means of a systematic model in order to focus their group efforts towards improving individual instruction (*cf* Burney 2004, Little 1985). According to Joyce & Showers (1982), a successful model of collaboration should include four specific elements: a theoretical framework, peer discussion, observation, and critical analysis. Programmes fitting these criteria must be sought to include in CPTD, thereby making it more effective as a catalyst for instructional improvement.

Lesson study is one such CPTD programme that is receiving international attention. It is a systematic approach to the planning, teaching, observing, revising and re-teaching of lessons. It is a way for teachers at the same or across grade levels to work in teams to set specific goals that translate directly into improvement in instruction. Lesson study as a model for classroom instruction has been used in Japan for over 50 years and has been credited for much of the success in teaching mathematics and science (*cf* Lewis *et al* 2004, Yoshida 1999). Lesson study is also receiving attention in other countries, including Australia (Lim *et al* 2005: Abstract), China, Singapore, Sweden, Hong Kong, and Taiwan (*cf* Juang *et al* 2008,

1 *Cf* Jackson & Rothman 2005, Montgomery *et al* 2005, Randraje *et al* 2005, Steyn 2004, Steyn & Schulze 2005.

2 *Cf* DoE 2008, Joyce & Showers 1982, Lam *et al* 2002, Ramparsad 2001, Schmoker 2004.

Lee 2007). Over the past 10 years lesson study has also become part of the CPTD process in several school districts across the USA (*cf* Fernandez & Chokshi 2002, Lewis *et al* 2006). While lesson study has been implemented elsewhere, it has not been explored as an approach to CPTD in the South African context. This poses unique challenges to teacher development. Due to its political history South Africa's isolation provided the researchers with a novel and fertile environment to investigate lesson study as a phenomenon. In addition, South Africa offers a unique culturally and ethnically diverse environment that provided an interesting backdrop and challenge to a study of this nature.

It is important to briefly sketch the educational changes that have occurred since 1994 and provide the context for this study. Carl (2009: 18) is of the opinion that South Africa was in need of a dynamic curriculum development. Since 1994 there have been extensive curriculum changes, leading to the development of Curriculum 2005 and the National Curriculum Statement for the General Education and Training Phase (Grades R-9) after a review process in 2000, as well as the Further Education and Training Phase (Grades 10-12). Outcomes-based education formed the basis for the new educational dispensation (Carl 2009: 20). The implementation of Curriculum 2005 for the General Education and Training Phase started in 1998 and the vision was that full implementation would be completed by 2005, hence the name Curriculum 2005. School subjects were now clustered in eight learning areas, namely Mathematics, Languages, Economic and Management Sciences, Natural Sciences, Social Sciences, Arts and Culture, Technology and Life Orientation (Carl 2009: 87, DoE 1997). In 2000 Curriculum 2005 was reviewed and renamed the Revised National Curriculum Statement for the General Education and Training Phase. In 2002 it became known as the National Curriculum Statement for the General Education and Training Phase. The present study was undertaken within the context of the National Curriculum Statement.

This article explores the value of lesson study as an approach to facilitate CPTD in South Africa, thereby making it more effective as a catalyst for instructional improvement.

1. CPTD in South Africa

The culture of teaching in South Africa remains one of isolation (Ensor 2001). According to Robinson (2001: 103),

> the culture that has been encouraged and developed in many schools has been one where teachers would rather work on their own behind closed doors than be open about their concerns and difficulties (Carl 2005: 223)

refers to teachers who are not involved as "being voices crying in the wilderness". The instability that began during the apartheid era helped to create the culture that currently still exists in some schools. Although much has been done in the way of educational reform since the 1994 democratic elections, there is still a gap between policy at the national level and practice at the classroom level.

The Norms and Standards for Educators (DoE 2000a), released in February 2000, outlines in detail the roles and responsibilities of educators in South Africa, but the document does not discuss specific CPTD strategies that should be employed in an effort to give educators the skills necessary to fulfil those roles and responsibilities. A report released in May 2000 (DoE 2000b) indicated that teachers were not adequately prepared for the implementation of Curriculum 2005. The Review Committee identified the problem with the existing CPTD workshops, first as the timing, with three- to five-day sessions held after school or at weekends and, secondly, as the use of trainers who had been out of the classroom for too long. The Review Committee's conclusion was consistent with those of other researchers in South Africa (*cf* Avalos 2000, Harber 2001), namely that there is a gap between the Department of Education's (DoE) vision of the educator and the reality of the teacher's classroom experience.

The initial training model used (the so-called Cascade model where teachers were trained and had to return to their schools and train their colleagues) consisted of training sessions, cluster and group meetings, as well as workshops, but was found to be ineffective (Ramparsad 2001). In an attempt to address the need for effective CPTD programmes, the DoE developed the National Policy

Framework for Teacher Education and Development in South Africa. As a result of this policy (DoE 2006) a CPTD system was proposed. This system has not been implemented but will require teachers to accumulate professional development points over three-year cycles. In anticipation of the implementation of a CPTD system, a task team was formed to conduct a pilot study investigating the current CPTD practices in a sample of 37 schools in three provinces, namely KwaZulu-Natal, Free State and Western Cape. The final report of that study was submitted in December 2008 (DoE 2008).

This comprehensive report listed 212 different kinds of CPTD activities in which the teachers in the study had been involved from July 2007 to July 2008. The majority of the teachers who were involved in CPTD took advantage of the activities centred on the National Curriculum Statement (DoE 2002). However, the report finds it "noteworthy that very few of the activities indicated were in any way related to strategies for curriculum delivery in the classroom" (DoE 2008: 29). The recommendations by the task force for implementing this proposed CPTD system, with the requirement for teachers to accumulate teacher development points, included the following aspects (DoE 2008: 43-4): the implementation of the CPTD should not be rushed; support should be provided at school level; the CPTD system needs to identify high-quality professional development programmes that would impact on teachers' classroom practice and learner performance, and a strong base of service providers appropriate to the needs of the locality should be established.

Steyn (2009: 256-75) also stresses the challenges of ensuring continuing professional development for South African teachers. He highlights aspects such as teacher learning and the commitment of teachers (Steyn 2009: 265-67), stating that there should be "more collaboration and interaction between teachers" (Steyn 2009: 275). The process of bridging the gap between national policy and classroom instruction can thus be long and slow (Beijaard *et al* 2004). If the DoE proceeds with the implementation of a new CPTD system, it may be beneficial to follow these recommendations. Teachers need to be presented with an approach to CPTD that provides opportunities for meaningful collaboration in an effort to bring them out of

isolation and improve classroom instruction. One such approach is lesson study.

3. What is lesson study?

Lesson study works on the premise that the classroom lesson is the context that should be used to improve teaching (*cf* Stigler & Hiebert 1999). Burney (2004: 530) defines lesson study as a process whereby

> practitioners engage as researchers and scholars in their own classrooms by developing and testing lessons and studying their impact on students. This practice provides a high-fidelity context in which teachers can build their content knowledge and pedagogical skill.

The main component of lesson study is the research lesson. Watanabe (2002: 36) explains that

> an individual teacher or group of teachers plans a research lesson by studying the lesson's topic, ascertaining where the topic fits into the curriculum, evaluating the strengths and weaknesses of typical approaches, and trying new ways to address weaknesses in the traditional approaches.

Although the most common type of lesson study groups is school-based, they can also occur at both regional and national levels (*cf* Stigler & Hiebert 1999, Watanabe 2002).

There are differing views about the number of actual steps in a lesson study cycle. These range from four to eight.[3] Although the precise number of steps in a lesson study cycle seems to be a negotiable item, some components within the steps are non-negotiable.

- Goal setting

A lesson study cycle begins with the selection of a goal. Teachers on a lesson study team (ideally four to six teachers) select an overarching goal, focused on the learners, that serves as a guide for the planning of research lessons.

3 *Cf* Fernandez & Chokshi 2002, Lewis 2002, Stepanek *et al* 2007, Stigler & Hiebert 1999, Weeks & Stepanek 2001, Yoshida 1999.

- Planning the research lesson

Using the selected goal as a guide, the lesson study team develops a research lesson specifically designed to move the learners closer to the goal. The plan for the lesson is detailed and focused on the learners. The research lesson plan serves as a guide for the observation of the lesson and as a tool for generating the data necessary for further discussion.

- Teaching and observing the research lesson

One of the lesson study team members teaches the collaboratively designed lesson to his/her learners while the other members generate data by observing the learners during the lesson. In describing this component, Stepanek *et al* (2007: 5) state:

> [T]he observers take notes on what the teacher and students are doing and saying and collect evidence of student thinking. The purpose of the observation is to gather data about the effectiveness of the lesson, not to evaluate the teacher.

The teachers doing the observation are generally assigned different aspects of the lesson for which they must gather data. Stigler & Hiebert (1999: 114) observed that:

> [t]he focus is on the lesson, not the teacher who taught the lesson; the lesson, after all, is a group product, and all members of the group feel responsible for the outcome of their plan.

The view might be held that it is difficult to separate the evaluation of the lesson from the evaluation of the teacher during the process of observing the lesson, but here lies the uniqueness of lesson study and why it is called lesson study. The focus is on the collaboratively designed lesson itself and not predominantly on assessing the teacher.

- Debriefing

Following the teaching and observing of the research lesson, team members gather for a post-lesson discussion where they can share the data generated during the lesson.

- Revising and re-teaching

Based on the discussion of the data generated during the observation of the research lesson, the lesson study team critiques the effectiveness of the lesson in terms of moving the learners closer to the goal. The aim of this step is to evaluate how well the research lesson met the goals it was designed to meet. This collaborative session begins with the teacher of the research lesson giving feedback. The other teachers then give feedback based on the data they collected. It is important during this session to keep feedback focused on the lesson. Fernandez & Chokshi (2002: 133) suggest that, "the observing teachers should support all of their statements with concrete evidence from their observations." This step in the model is critical, as lesson study is not simply a programme to showcase teaching; it is a systematic strategy to analyse a lesson. The lesson is then revised and, if possible, taught to a different group of learners where it is again observed and discussed.

- Sharing results

The final component that should be included in a lesson study cycle is for the team to share the results of their research with colleagues.

4. Benefits and limitations of lesson study

Research using lesson study as an approach to improving classroom instruction has revealed some benefits. First, lesson study can act as an agent of change in a culture of isolation. Participants view the improvement of instruction as a collaborative rather than an individual responsibility (*cf* Stigler & Hiebert 1999). Secondly, participants become comfortable with having colleagues observe them teach. The reason for this is that teachers view the observation as an evaluation of the collaboratively developed lesson rather than a critique of their teaching (Chokshi & Fernandez 2004). A third benefit is an increase in content knowledge realised by participating teachers. This is particularly relevant if all team members share a discipline (*cf* Chokshi & Fernandez 2004, Stewart

& Brendefur 2005). A fourth benefit of lesson study is that it appears to provide an approach that is continuously effective in meeting the needs of the learners (Wang-Iverson & Yoshida 2005).

There are also some barriers to the implementation of lesson study. One of the most common obstacles is the availability of time for collaboration (*cf* Chokshi & Fernandez 2004, Honigsfeld & Cohan 2008, Little *et al* 2003). A second barrier experienced by some participants in lesson study is a reluctance to open themselves up to critical peer analysis while teaching the research lesson (Stewart & Brendefur 2005). A third limitation of lesson study is the absence of results that can be scored empirically. Researchers in the USA (*cf* Chokshi & Fernandez 2004, Lewis *et al* 2006) point out that lesson study is still being explored and should thus not be required to prove its effectiveness through learners' scores on summative tests.

Perhaps the greatest challenge to the successful implementation of lesson study is the expectation that teachers adopt the behaviours of good researchers. A study conducted by Fernandez (2002) highlighted the difficulty of teachers to adopt the research focus that is inherent in lesson study. It was found that teachers do not possess the basic research skills of "posing rich, researchable questions; designing a classroom experiment; specifying the type of evidence to be collected; and interpreting and generalizing results" (Fernandez 2002: 400). To successfully implement lesson study it would be necessary to support teachers in the acquisition of good research skills.

Although there may be obstacles to its implementation, many teachers have experienced the process of lesson study to be a beneficial tool for instructional improvement. Lesson study bridges the gap between knowledge acquired by teachers about teaching and the actual implementation of that knowledge in the classroom (Stigler & Hiebert 1999). Within the South African context, lesson study may also bridge the gap between national education policy and local classroom practice.

5. Methodology

Lesson study was introduced to a group of teachers in South Africa, who were chosen as the context for this study for several reasons. First, South Africa shares similarities with two countries that are currently using lesson study as a CPTD programme. Like Japan, South Africa has adopted a national curriculum. The common link between education in South Africa and the USA is that both countries have recently undergone educational reform at the national government level. The USA Congress has adopted the "No Child Left Behind Act" (2001), which requires that all learners be proficient in specified areas of learning by the tenth grade. The DoE in South Africa has made similar demands (DoE 2000a). Secondly, to the best knowledge of the researchers, lesson study had not yet been initiated in the South African setting. This allowed participants to proceed through the process of lesson study free from any preconceived notions about the outcome. Thirdly, South Africa was chosen as the context for this study because its system of education lent itself well to research in lesson study as a strategy for instructional improvement.

The participants in the study were all Intermediate Phase (Grades 4-6) Mathematics teachers at a rural primary school in the Western Cape province. The study, beginning in February 2007 and concluding in August 2008, guided a team of teachers, two of whom were also administrators, through three cycles of lesson study.

The researchers employed a four-step design for each lesson study cycle. Educational documents issued by the DoE provided the framework for the initiation of a lesson study cycle. Elements of the National Curriculum Statement (DoE 1997) and the Norms and Standards for Educators (DoE 2000a) were found to be relevant in each of the four steps of the lesson study cycle shown in Figure 1.

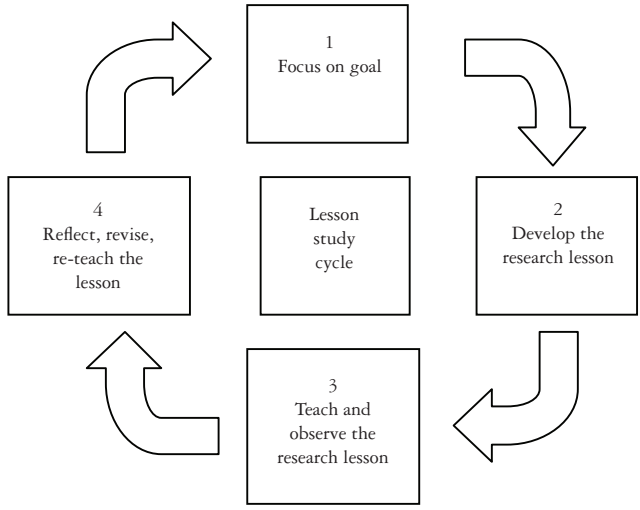

Figure 1: Steps in the lesson study cycle

A qualitative case study approach, by way of an action research design, was employed as the methodology for this research. Since the purpose of this study was to discover the value that teachers would place on the process – rather than the outcome – of lesson study, a research design that allowed sufficient flexibility to accommodate the cyclical nature of that process was employed. The research design also had to allow for the changing role of the researcher in relation to the participants. The dynamic approach of action research made it well suited for the nature of this study.

The action research design consists of a series of spirals. Although there are several variations of the initial action research model introduced by Lewin in 1946,[4] the spirals all tend to follow the original basic format of plan, act, observe, and reflect. The basic action research spiral is depicted in Figure 2.

4 *Cf* Bassey 1998, Lewin 1946, Riel 2008, Stringer 2007.

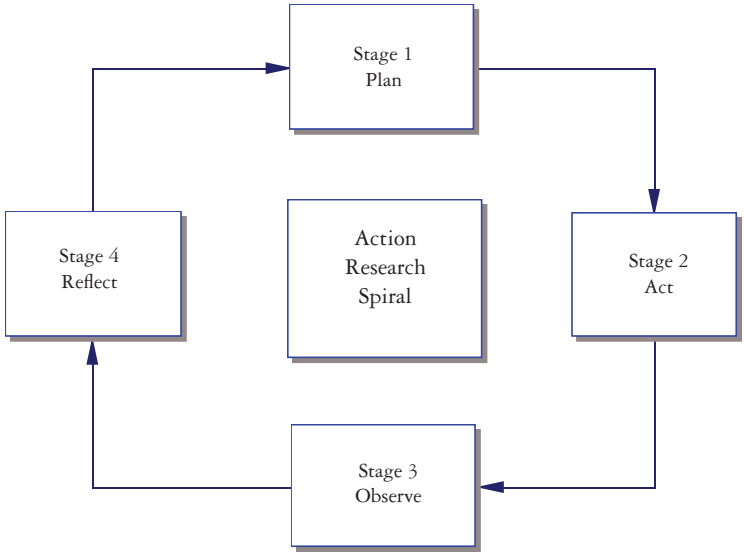

Figure 2: Action research spiral

Although the researchers in this study sensed a connection between the spirals of action research and the cycles of lesson study prior to the commencement of the first cycle, the extent of closeness of the connection was only realised during the process of repeated cycles of lesson study through the corresponding spirals of action research. Figure 3 shows the graphic connecting the steps of a lesson study cycle directly to the stages of an action research spiral.

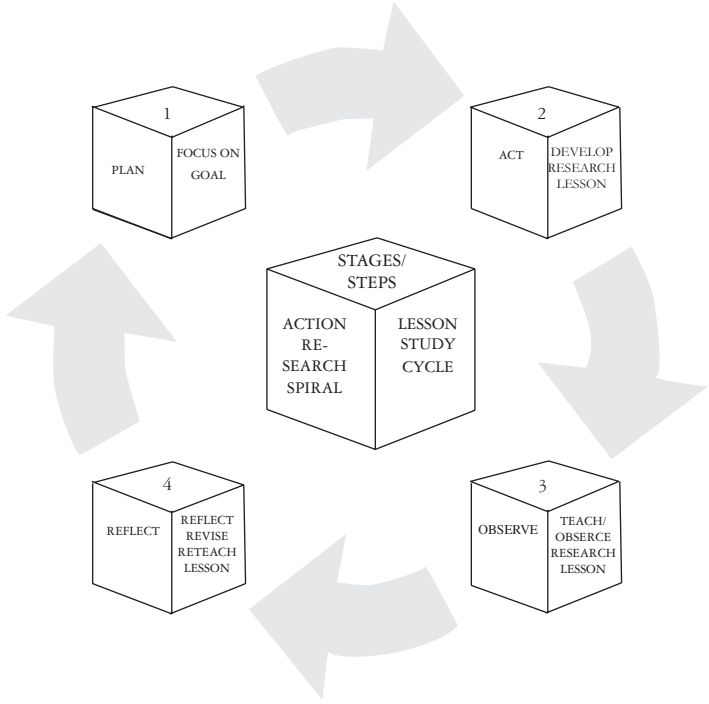

Figure 3: Connection between action research spiral and lesson study cycle

This research aimed to discover the value that the participants would place in the process of lesson study as a model for their own learning and instructional improvement. Data were generated during each step in the lesson study cycles by means of one-to-one interviews, surveys, research-lesson documents, video-recordings and the researcher's field notes. The changing role of the researcher, consistent with the criteria for emancipatory action research (Carr & Kemmis 1986: 205), was documented throughout the study. The findings highlight several areas where a lesson study model could be

considered an effective CPTD programme within the South African context.

6. Results and discussion

There are many ways to characterise the effectiveness of CPTD. Ankiewicz *et al* (2001: 201) contend that "[t]eachers should be trained to match the aims and objectives of their lessons with strategies for achieving them". Teacher development programmes and curriculum advocates should provide concrete support for teachers in terms of developing strategies to promote thinking as well as means of assessing various strategic options.

Successful CPTD programmes incorporate various elements, including the teacher's purpose and personality, and the culture of teaching within the context of the classroom (Harley *et al* 2000). Consistent with these views, at least four components contribute to the effectiveness of CPTD. First, CPTD should bring teachers out of isolation by way of meaningful collaboration with their peers (Lam *et al* 2002). Secondly, an effective CPTD programme is delivered within the context of the classroom (*cf* Berman *et al* 2000, Stigler & Hiebert 1999). Thirdly, the learning presented through the CPTD programme must be incorporated into routine classroom practice.[5] Finally, a successful CPTD programme includes follow-through or ongoing support to its participants (*cf* Bennell 2004, Joyce & Showers 1982). Lesson study was found to contribute to each of these components for effective CPTD as described below.

6.1 Bringing teachers out of isolation by way of meaningful collaboration

Lesson study offers an effective strategy to bring teachers out of isolation, allowing them to experience meaningful collaboration that includes a theoretical framework, peer discussion, observation, and critical analysis (Joyce & Showers 1982). The participants in this research experienced all those elements in the process of

5 *Cf* Berman *et al* 2000, Burney 2004, Joyce & Showers 1982, Lam *et al* 2002, Schmoker 2004.

lesson study. Each of them had previous collaborative experience through learning area and cluster meetings. They found their experience with collaboration in lesson study to be more valuable than previous experiences because they connected it directly to improvement in their own instruction. They specifically stated that planning the research lesson together and discussing the impact it had on the learners were the most valuable aspects of collaboration during this study.

During the interviews held at the end of the first cycle of lesson study, participants discussed their perceptions of the relationship between collaborative planning and improvement of instruction. Specifically, they were asked how previous collaboration differed from their experiences with the process of lesson study.

One of the participants responded to this question by stating: "Lesson study is direct talking about something which can help everyone in class." Another participant shared several instructional strategies he had begun to implement in his own class as a result of collaboration during the first cycle of lesson study. He had become more focused on the way he gave instructions and the kind of questions he asked. He had also started to ask himself:

> What are you going to do with the reaction when the children put up their hand and say 'I don't understand'? We don't do that so formally in the normal academic planning. So some of our eyes really opened in the lesson study because now we listen.

They indicated that it was the actual planning and writing down of the progression of the research lesson that was different from previous collaborative experiences. They stated that in other collaborations, they focused more on lesson outcomes and pupil behaviours, but spent little time on teaching skills.

Although participants viewed collaboration as a catalyst for improvement to instruction before their involvement in this research, it was the specific type of collaboration experienced in lesson study that transferred to instructional improvement.

6.2 CPTD programmes contextualised within the classroom

The process of lesson study is embedded within the classroom context. The team of participants are required to select an overarching goal for their learners, analyse the placement of their learners in relation to the set goal, develop a research lesson designed to move the learners closer to the goal, observe the effects of that design through the learners' experience of the research lesson, and then reflect on those observations. Lesson study uses the classroom as its context through every step of the cycle.

Participants in this research found several components of lesson study to be of particular value within the context of the classroom:

- setting a goal and then planning instruction with the purpose of moving learners closer to the goal;
- establishing a connection between the content of the research lesson and the remainder of the curriculum;
- planning, in advance, the learners' response to instruction and the consequent teacher's response;
- the opportunity to observe the learners during the research lesson, and
- the value of the post-lesson discussion where they were able to collaboratively validate and develop the perceptions of their learners in relation to the prescribed goal.

The experience of the participants in this study is consistent with the recommendations contained in the final report of the *Research study on professional development practices in schools* (DoE 2008). A comparison of CPTD models in schools throughout three provinces in South Africa established that school-based models with the focus within the classroom context were successful in effecting positive changes in classroom instruction.

6.3 Transfer of learning into routine classroom practice

Lesson study has been experienced as the catalyst for transforming new instructional strategies into routine classroom practice. The

participants in the South African study indicated that 18 months after the introduction of new strategies used as a result of their experience in the first cycle of lesson study, they had not only incorporated them into routine classroom practice, but had also transferred them to other learning areas and scenarios.

One of the participants, who was also the principal in his school, commented about how he had taken this strategy out of the context of the classroom and extended it to communication with his teaching staff. The positive experience with his learners caused him to reflect on his communication skills with the teachers:

> I think that was an area in my leadership that was a little bit – I thought that all of the teachers understand and know what we are aiming for – the same as in the class actually and then I come to the conclusion, no, no they don't understand everything so I have to make it more clear to them.

Another strategy that participants continued to use was the type of questions they asked their learners. One of the team members, in particular, saw the value of this strategy in relation to the skills of his learners. He started to observe individual learners who are not performing well academically and changing the way he asks questions to target the skills of those learners. He also began using group work more frequently in an effort to reach those learners who are struggling.

Continual use of these new instructional strategies was not the only component of lesson study that had become routine practice for the participants. They also continued to utilise peer observation as a catalyst for improvement of instruction. One of the participants recalled inviting two of the other participants to observe her learners' response to instruction. She had become comfortable with inviting outside observers into her class to observe the learners while she was teaching.

6.4 Successful CPTD programmes include continuous support

Continuous support of a CPTD programme is embedded within the model of lesson study. By experiencing the process of lesson

study through three cycles, the participants in this research collaboratively focused on the learners' work and changed their instructional practice. They then observed those changes, reflected collaboratively on the success of the changes, and revised the instruction based on the reflections.

By following the model of lesson study, this group of teachers provided one another with the follow-through and support necessary for the successful implementation of a CPTD programme. Although it may also have been effective to have a team of only teachers (as many lesson study teams are), it was very advantageous, in terms of support, to have two administrators on the team. The support of the administration (principal) is vital to the successful continuous implementation of CPTD strategies (Fullan & Watson 1999). The responsibility of administration in relation to CPTD is outlined in the DoE (2008: 50) report:

> ... the IQMS process requires schools to assist educators to prepare Professional Development Plans linked to the School Improvement Plan. Generally, principals reported that implementation, monitoring and evaluation systems were in place in schools.

The principal who participated in this research was excited about the possibility of a connection between the process of lesson study, specifically peer observation, and the requirements for the Integrated Quality Management System (IQMS), a tool used to evaluate teachers. When asked for any final comments at the conclusion of the second cycle, he responded:

> I think that this is a great process. Surely I think we must go on with it. I think we all benefit from that and it's part of our IQMS. It makes it so easy for everyone. We have to do that ourselves, and I think that this is a great tool to help ourselves. It was great for me and I think for the other teachers as well.

Although the inclusion of two administrators may have encouraged the continuous involvement of each of the participants through three cycles of lesson study, the experience of the process itself promoted the necessary follow-through. Participants indicated that more than a year after their experience with lesson study, they were continuing to observe each other and to informally discuss

the use of teaching strategies initiated during their participation in this research.

Lesson study can offer a viable choice as an effective CPTD programme. It is employed in the context of the classroom in a way that brings teachers out of isolation and encourages them to incorporate new strategies as part of routine classroom instruction. It also includes a component that allows for follow-through and continuous support.

7. Conclusion and recommendations

As the educational reform movement that began in South Africa nearly two decades ago continues to evolve, teachers will also be asked to make continuous changes in classroom instruction. Harley *et al* (2000: 300) argue that:

> for real change then, what teachers need is not impersonal policy directives implemented from above with the overtones of authority and control, but localized, contextualized, even personalized, developmental support and assistance in the everyday business of teaching. And what this requires is policy that is sensitive to contextual diversity being implemented at local community level by those most in touch with local conditions.

If the DoE proceeds to implement the proposed CPTD system, lesson study offers a viable choice as a programme within that system. The researchers recommend that lesson study be initiated in other settings. The necessary tools for planning, teaching and observing a research lesson were developed for use in the study. It is recommended that it be tested by a different group of teachers in another context using the same tools to guide their own cycles of lesson study.

A replication of the study could begin with an in-depth profile of the participants in the research. It may be beneficial to explore participants' roles in relation to one another; a detailed description of prior experience with collaboration; their experience with CPTD programmes or activities, and their expectations through involvement in lesson study.

Further research could explore lesson study as a model for successful CPTD. If teachers in South Africa are expected to "play a special role particularly in regard to the planning of lessons and lesson units" (Carl 2002: 262), lesson study can be a useful strategy for accomplishing this task. Teachers who are of the opinion that the training they received is not useful may value the process of lesson study as a strategy to collaborate with peers in an effort to improve classroom instruction. It can help teachers move from their apartheid role of being "teachers [who] were expected to follow rules and implement prescriptive curricula established from above [where] their job was to obey orders and not to be creative" (Harber 2001: 81) to their post-apartheid role of being

> ... mediators of learning, interpreters and designers of Learning Programmes and materials, leaders, administrators and managers, scholars, researchers and lifelong learners, community members, citizens and pastors, assessors and learning area/phase specialists (DoE 2000a: 13-4).

With the increased pressure that educational reform has placed on teachers in South Africa, lesson study offers a viable strategy to effect the kind of change necessary. It bridges the gap between policy at the national level and instruction at the classroom level. The process of lesson study empowers teachers to be active creators and reformers of their own profession.

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