THE AUSTRALIAN TEACHER EDUCATION CHALLENGE: INNOVATIVE APPROACHES TO FIELD EXPERIENCES IN A REGIONAL EDUCATION COMMUNITY TO DEVELOP THE KNOWLEDGE BASE OF PRE-SERVICE TEACHERS

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ABSTRACT

This study examined field experiences integrated into two literacy courses undertaken by second year pre-service teachers (PSTs) at a regional Australian university. A sample of 12 PSTs and 22 teachers completed questionnaires and participated in brainstorming sessions and a focus group interview to determine the extent to which they perceived that PSTs developed their knowledge base through field experiences and regular coursework. In particular, the findings highlight the positive impact that partnerships between regional university campuses and local schools can have on PSTs and on the future sustainability of the region.

INTRODUCTION

Teacher education programs must endeavour to provide more innovative ways to demonstrate the reciprocal relationship between educational learning theory and teaching practice. In the report *Learning to teach: Report of the working party on the practicum in preservice teacher education* by the Queensland Board of Teacher Registration (1994), the practicum was identified as an important factor in teacher education programs and several recommendations were made as to how teacher education faculties could proceed to strengthen this. Nearly a decade later the Committee for the Review of Teaching and Teacher Education (2003, p. 137) reiterated this finding when it expressed the view of the committee and the Australian Council of Deans that "professional practice must be at the heart of teacher education and theory and practice must be seen as mutually informing". This report also gave suggestions for innovations, outlining the few that have been adopted around Australia. Little progress seems to have been made with innovations in teacher education practicums in Australia in the last decade.

Although there is widespread agreement that much of a student teacher's knowledge base can be learned only in a classroom, there are criticisms and concerns about block practicums, traditionally spent with one teacher and in one classroom. Calderhead (1991) and Zeichner (1990) conclude that the direction of practicums needs to change in order to improve opportunities for the development of the PSTs' knowledge base. Researchers in the United Kingdom and the United States of America have reported examples of education programs that utilise innovative methods for developing the

practicum component of teacher education courses and many suggestions for the improvement of Australian programs come from this work.

The present study into the effectiveness of changes made to two literacy courses focuses on the research question: To what degree did student teachers develop their knowledge base from their involvement in integrated field experiences?

BACKGROUND

In their reports, bodies such as the Queensland Board of Teacher Registration (1994), the Committee for the Review of Teaching and Teacher Education (2003) and the Center for the Future of Teaching and Learning (Darling-Hammond & Ducommon, 1999) have called for innovative responses to providing practicums, such as integrating field experiences and course work, Professional Development Schools (PDSs) and internship approaches. A program that is trying to be future orientated and to improve continuously needs to take small steps towards developing collaborative partnerships with schools and other parties (see also Hughes and Motley, Rossi & King, this issue). This study aimed to provide an innovative response, which will be evaluated in order to guide further changes to and innovations in the program.

Much research has been undertaken to uncover how student teachers develop the knowledge base required for their role in a school. University classes play an important role in assisting with the development of subject matter knowledge and knowledge about pedagogy; however, it has been demonstrated in Kennedy's (1991) summary of the Teacher Education and Learning to Teach longitudinal study (1991) that this kind of knowledge does not necessarily inform practice, nor provide the knowledge needed for teaching. Other reviews of the literature by teacher educators (Calderhead, 1991; Zeichner, 1992) support this study and also suggest that university theory and classroom practice are not separate.

Schön's theory (1983) explained that the body of theory knowledge gained at university provides the student teacher only with technical or 'know what' information, but PSTs also need the practical or 'know how' knowledge, which is directly related to action. In Calderhead's theoretical article (1988b), this knowledge is termed 'image', whereby at a high level of abstraction teachers have an image of the beliefs and feelings about the right ways of teaching. This knowledge is based on prior experiences, perceptions and visual memories. It is for these reasons that great value is placed on the early learning experiences in classrooms, as individual and shared experiences provide opportunities for student teachers to develop images, make sense of new knowledge and create meaning (Calderhead, 1988b). It seems logical, then, that the significant changes made to the courses in this project can play a vital role in the knowledge development of student teachers. It is also argued that the integration of field experiences and course work depends on successful university–school partnerships and, in regional areas of Australia, has the potential to strengthen and sustain partnerships that already exist (see also Henderson, Hughes and Holden, this issue).

The role of the practicum in the development of the pre-service teacher's knowledge base

Despite many studies of and modifications to teacher education programs, the debate continues about the most effective programs and key components of such programs. Calderhead (1988b) asserted that, although they are important, images and models provided by supervising teachers are not sufficient for learning how to teach, and that in order to plan units of work a student teacher must have a substantial amount of knowledge about children and have developed metacognition skills.

Metacognition is essential to learning from practicum experiences as it allows analyses of images and the adaptation of models observed, and enables the student teacher to act on different knowledge bases to generate practical knowledge useful for teaching. Several authors maintain that metacognition can occur through reflective practice (Butler, 1996; Schön, 1983).

Reflection enables PSTs to learn from their own experiences, as well as to reflect upon and regulate their thoughts and behaviours (Boud, Keogh & Walker, 1985; Butler, 1996). Schön (1983, p. 50) identified two forms of reflection, both of which are valuable tools to assist the practitioner to cope with situations in practice that he/she wants to transform into something better. Studies by Allen and Casbergue (1997) and Dobbins (1996) showed that incorporating reflection on practice into coursework and assessment tasks leads to new understandings and enhances learning.

The development of a body of knowledge, suitable for the teaching profession, requires more than simply having more experience in classrooms but growth can be stimulated by a variety of experiences. Some researchers expressed concerns about the value of such experiences as they are currently organised as an addition to the coursework. PSTs involved in field experiences and their supervising teachers can become focused on procedural or classroom management skills as opposed to the process of teaching (Moore, 2003). Additionally, Marshall (1999) found that student teachers can revert to traditional teaching practice once in the school classroom and faced with traditional practices of a mentor, as opposed to trying innovative approaches taught in university courses (Zeichner, 1992).

Efforts to overcome these concerns include providing shorter classroom visits followed by opportunities for reflection and discussion about observations of learning and teaching. These practices support the integration of theory with practice (Marshall, 1999; Moore, 2003) and place more value and emphasis on reflection.

Several reports have made suggestions to guide improvements to programs and encourage stakeholders to collaborate to enhance the quality of learning in the practicum (Queensland Board of Teacher Registration, 1994; Zeichner, 1990). It is necessary for stakeholders to explore further how field experiences (experiences linked to courses) can be created to contribute positively to the development of the knowledge base of beginning teachers and offer benefits to schools. It is for this reason that the present study evaluates the effect of field experiences coupled with coursework that involves reflection.

Innovative approaches to strengthening the practicum

Mundry, Spector, Stiles and Loucks-Horsley (1999, p. 22) identified successful teacher education programs as those that are coherent, have courses that build on one another and have school experiences that are integrated with campus courses. The National Center of Research on Teacher Learning report (Gross, 1991) showed that programs supported by intensive, ongoing in-school assistance were shown to have great impact on teaching practices. In the United States of America, many faculties and schools share the responsibility for teacher education and many partnerships, in the form of PDSs, have developed since the 1990s.

Grisham, Bergeron, Brink, Farnan, Lenski and Meyerson (1999, p. 182), in an analysis of four PDSs, stated that PDSs have been developed "to connect theory and practice in education so that they reciprocally inform each other" as schools and universities undergo renewal. The successful PDS concept requires collaboration between school and university staff and therefore challenges the traditional view of teacher education (Gordon, 2004). PDSs have changed traditional practice and place a high priority on collaboration and the many benefits for all parties (Grisham, Gergeron, Brink, Farran, Lenski & Meyerson, 1999). Zeichner's review (1990) also suggested that the practice in some PDSs of placing PSTs in schools, rather than the traditional method of assigning PSTs to classrooms, would prevent the apprenticeship model where the impact of one teacher becomes influential. This innovation involves the whole school in the education of student teachers as they move around the school, becoming involved in a variety of activities and experiencing a range of classrooms.

Although there are many positive aspects of this model, Zeichner (1990) had some concerns. He observed that practicum quality still could not be guaranteed and that some PDS schools expose student teachers only to the advantaged children, which does not prepare them to teach in economically and culturally diverse schools (Zeichner, 1992).

Field experiences that take the form of part or full day visits to schools with structured on-site activities being completed by participants have been evaluated by several authors and show effectiveness in developing a PST's knowledge. Sabatini McLoughlin and Maslak (2003) found that PSTs in tutoring programs on school sites in communities different from that surrounding their university campus developed knowledge of a diverse group outside of the normal classroom environment, and that this provided more experiences than the traditional coursework and practicum mix in many universities

Calderhead (1988a) found that structured field experiences in schools, followed by tutorial discussion, were effective forms of teaching. Sabatini McLoughlin and Maslak (2003) found that one-to-one and small group work fostered PSTs' ability to pay more attention to how to interact with and learn without the pressure of coping with large groups. In these ways PSTs learn about teaching and learning under the guidance of a range of others.

Many researchers encourage teacher educators to work in partnership with schools and engage in communities of practice to strengthen teacher education programs, especially the practicum component. The literature demonstrates that such collaboration between parties is vital and needs to be an essential feature of education programs. Reducing the

time that PSTs spend on the campus and involving others in their learning on different sites provides opportunities for all parties involved to benefit from these partnerships. The children tutored by PSTs also benefit greatly and the mentors and university staff also develop new knowledge (Marshall, 1999).

METHOD

This study focuses on one endeavour to develop a successful, coherent Australian regional teacher education program that has courses that build on one another and school experiences that are integrated with campus courses. In conjunction with the two literacy courses completed in the second year of the teacher education program, PSTs were placed in classrooms in two primary schools (School A and School B) in close proximity to the university campus for approximately four hours per week for two terms. The PSTs' remaining time at the school was spent primarily observing the teacher and children during the literacy block and participating in teacher-planned activities. Course reflections, included in assessment tasks were carried out in tandem with the student teachers tutoring of children in reading at the two local schools. The university course provided theoretical underpinning as well as a supportive learning environment where PSTs' reflections could be discussed with all.

Participants

The PST participants in this study were 12 second year students who completed two literacy courses in consecutive semesters in 2004. The students represented a range of ages and backgrounds reflective of the cohort. Six of these PSTs were then invited to participate in a focus group interview session but only four attended. These PSTs were chosen using the technique of purposive sampling. Participants were selected from those who visited at least two classrooms in two schools during their field experiences. This group contained PSTs who had a range of grades on assessment tasks, ages and types of responses on their questionnaires.

Other participants included 22 teachers (two males and twenty females) in the two large participating schools. These teachers had volunteered to provide school-based experiences for the PSTs in each of two university terms and could therefore provide some insight into the development of the teachers' knowledge base and how the program might be improved.

The school coordinators attended the PSTs' Support-a-reader (SAR) Program training (P-3 Literacy In-service Project, 1991) and spoke generally about school expectations. University lecturers attended an orientation meeting with the staff to introduce them to the course content and student assessment tasks via a schedule of topics and readings.

Data collection

Triangulation was used to validate the data collection. The following were the sources of data for the evaluation: (a) a questionnaire that enabled participants to rate the effectiveness of specific aspects of the course; (b) a focus group interview with PSTs using questions related to the questionnaire; and (c) large group brainstorming sessions.

Sources (a) and (c) were completed by PSTs and supervising teachers. Descriptive statistics were derived from these sources.

Instrumentation

Participants were asked to complete individual questionnaires to determine their attitudes to the course and the field experiences. A five point Likert scale was used. Some sections used questions and others statements. Questions were devised using the standards and indicators developed for this teacher education program. These align with the Professional Standards for Graduates (Queensland Board of Teacher Registration, 2002). The brainstorming sessions took the form of a "Positives, Minuses and Interesting" (PMI) table that was familiar to the staff contributing to the brainstorm. The brainstorming session in schools was conducted by the site coordinator rather than the researcher in order to encourage teachers to speak more freely.

RESULTS

The results provide information related to the research question about the effectiveness of field experiences as a method to develop PSTs' knowledge base, focusing on the SAR and observation/participation components. This leads to findings on how to improve the field experiences overall. Pseudonyms have been used to replace the names of participants to ensure their anonymity.

Effectiveness of the SAR component of the field experiences

Part of the purpose of the research was to examine the degree to which student teachers developed their knowledge base from their involvement in integrated field experiences. As field experiences consisted of two main components, the SAR component and the classroom observation and participation component, the results relating to this question have been presented in two sections. This allows for a comparison of the results for the two components using the descriptive statistics.

The benefits to the PSTs' knowledge and skill development from the three components of the program can be seen and compared in the first section of the PSTs' questionnaire. 83% of PSTs indicated that generally they developed more than an *Average* amount of knowledge and skills from the course. 92% of participants indicated that the SAR component of the courses was rated as an *Above average* or *Excellent* component of the course. Fewer PSTs (75%) rated the observation component as highly as the SAR component. Teachers felt that overall both components of the school experience program were *Above average* or *Excellent* (95%) experiences for PSTs, allowing PSTs to gain experience in a range of classrooms. Teachers were unable to comment on the university coursework component.

When more specific questions were asked about the SAR component, 95% of teachers thought that this component provided opportunities for PSTs to develop their interpersonal skills to promote relationships with learners and to develop their knowledge of learners. All 12 PSTs who participated in this study *Agreed* or *Strongly Agreed* with these statements. Those who were interviewed explained that, as they got

to know the children with whom they worked, they became aware of the reading strategies that children used and talked to them about their interests. This knowledge was used to assist and encourage the children to read. Comments from PSTs on the PMI exercise indicated that they were able to see development in the focus group children's reading.

Questions relating to the use of PSTs' knowledge of the learners in the classrooms were rated similarly by both groups of participants. 67% of PSTs *Agreed* or *Strongly agreed* with a statement indicating that they were able to use knowledge of learners to set goals and a statement indicating that they were able to create learning experiences for the children with whom they worked in SAR. Only 63% of teachers were confident that PSTs developed tasks from the experiences and interests of the learners with whom they worked. Kathy stated that she did not see individual PSTs completing any planning in order to ascertain that they could complete these tasks. Several PSTs explained that they did not feel that they planned tasks, but instead followed the SAR routine; however, Betty and Katie explained that they were able to make some decisions themselves. These decisions were made using the knowledge that they gained from working with focus children to locate books more suitable for the children with whom they worked. This kind of initiative was valued by teachers and expressed through questionnaire and PMI comments, but not all PSTs felt confident in making these decisions.

Teachers were asked if PSTs were able to engage in a range of knowledge and skill development tasks while participating in SAR, that were valuable to the development of their knowledge base. The data show that an average of 23% of teachers were undecided and 70% of teachers *Agreed or Strongly* agreed that PSTs were involved in such tasks. The lowest rating on this section of the teachers' questionnaire was given to the PSTs' ability to use results of monitoring and assessment strategies to review the learning plans of each learner. Only 50% of teachers *Agreed* or *Strongly agreed* about this. This result may have occurred as children were being withdrawn from the classroom by PSTs for SAR or because student teachers did not share their work with the teachers. The permanent part-time participants acknowledged that being a part-time teacher meant that they did not see the PSTs each day and did not have much time to spend with them to see evidence of their ability development.

The questionnaire identified that PSTs felt that they were able to use educational theories and approaches during this time but these may have been focused mainly on cue systems and reading strategies. When asked during the interview about opportunities to implement educational theories and approaches in other lessons, respondents were quite negative. By contrast, 81% of teachers *Agreed* or *Strongly agreed* that PSTs incorporated information, ideas and understandings about teaching and learning of reading into their practice.

Effectiveness of the classroom observation and participation activities

This section presents the data for the second component of the research: the effectiveness of the participation and observation component in the development of the PSTs' knowledge base while involved in field experiences. Although this component was not rated as highly as the SAR component by PSTs on their questionnaire, data showed that it provided continuing opportunities for PSTs to develop their professional

knowledge, for which all PSTs indicated *Agreed* or *Strongly agreed*. In fact 83% or more stated that they were able to carry out a range of tasks during this time. The teachers' questionnaire shows that 68% or greater of the teachers *Agreed* or *Strongly Agreed* with PSTs on this point.

The organised observations and mini tutorials at School B, which aligned with the university tutorial topics, were rated highly by student teachers and were presented as a positive point during the PSTs' brainstorming session and in the interviews. During the focus group interview PSTs agreed that they could identify theory in specific lessons planned for them, as the purpose of the lesson had been made clear to them, and that in normal classroom observations they have more difficulty making links between theory and practice. The observation lessons seemed to be important to their learning; however, the questionnaire showed that 83% of PSTs could identify educational theories and principles in practice. 86% of teachers also perceived that this was possible. 75% of teachers *Strongly Agreed* or *Agreed* that PSTs could put information, ideas and understandings about teaching and learning into practice, as did 83% of PSTs. These percentages indicate the value of this component of the field experience program.

The tasks in which PSTs were involved during the field experiences at times pushed the PSTs to rely on educational theories and approaches covered in coursework, especially when they were given lessons to take 'on the spot'. PSTs appreciated that they were able to be involved in classroom activities without needing to plan, explaining that they did not feel pressure as they would during practicums where their performance is assessed daily. The opportunity to see two groups of children and the experience of swapping between classes, even if they were at the same year level, and changing schools each term were also beneficial.

The first five questions of the teachers' questionnaire provide general information on the field experiences from the teachers' perspective. Benefits to teachers from PST involvement in their classroom during the field experiences were shown as *Above average or more for* 45%. The remaining 55% felt that that they had gained *Some* or *Average* benefit. Even those teachers whose comments indicated that they supervised less enthusiastic or open-minded PSTs felt that they had gained from the experience. The brainstormed comments from participating teachers also show benefits to them. These included having a teaching assistant in the room and encouraging professional discussion and thought as well as the obvious benefits to the children. The benefits to children are evident from the comprehensive assessment carried out by School B staff on child participants, but these results will not be discussed further in this report.

Improving the field experience visits

Much information was also provided on the questionnaires and in the brainstorm sessions and interviews to assist with identifying areas that need improvement in the SAR and observation and participation components of the course. These included teachers' concerns and disappointment about some PSTs' enthusiasm for their school visits that included lack of reliability and lack of punctuality. For most PSTs, however, the experience provided an opportunity to apply their knowledge while working with children and created both anxiety and enthusiasm, which was evident in the tutorials.

Communication among all parties is clearly an area that needed improving. The interview group was asked to comment about opportunities to discuss the focus groups' progress with the classroom teacher. Katie and Karen stated that although it was brief they had the opportunity to talk to their teachers. Others, however, commented that they found it difficult to find the time as a result of school timetable constraints and the teacher's routine, which prevented them from having discussions before school and during the sessions.

PSTs also raised concerns related to the quality of observations during literacy sessions in some classes as other curriculum activities occur during this component of visits. Although efforts are made to prevent inequity from occurring, timetabling may be an area where negotiation will lead to improvement.

Some comments about negative aspects of the visits also relate to time issues. Firstly, there was not enough time to become familiar with the classroom before PSTs began withdrawing children for SAR or going off to mini tutorials and observation lessons to other classes. Secondly, too much time doing the same SAR program can become monotonous.

DISCUSSION AND CONCLUSIONS

This study demonstrated that developing partnerships with local schools to provide field experiences that integrate with courses in the teacher education program strengthens the program and assists PSTs to develop their knowledge base. Benefits accrue to the region when the environments that provide experiences are also promoted as places of work for PSTs as future teachers. Further, the benefits to the children supported by PSTs are evident to all involved in the program.

Benefits to PSTs from the integrated field experiences associated with this study include the provision of between 10 and 12 days of extra school experience than they would normally engage in during their second year of this degree. This extra time is a desirable change to the traditional program if it also equips PSTs with the knowledge and experience of teaching (Ramsey, 2000). Any generalisations to a broader population should be made with care; however, studies that have been carried out in the United Kingdom and the United States of America, where field experiences were integrated in a similar way, provide further evidence to support this small study (Calderhead, 1988a; Marshall, 1999; Moore, 2003).

The two major components of the visits -- classroom observation/participation time and SAR program time -- contribute to the knowledge and experience of teaching in several ways. Firstly, PSTs connect theory to practice assisted by teachers during observation lessons, a necessity in teacher education programs described by several authors (Committee for the Review of Teaching and Teacher Education, 2003; Grisham, Bergeron, Brink, Farran, Lenski & Meyerson, 1999; Moore, 2003; Ramsey, 2000). PSTs may find making such a connection difficult at this stage of their development unless the purpose of the lesson is made explicit. The lecturers facilitated discussions and reflection about observed practices and also aided PSTs to link practice to theory.

Reflection skills when taught and practised assist with the development of the PSTs' knowledge base.

Secondly, PSTs develop knowledge of learners. Calderhead (1988b) asserted that this knowledge of learners is vital if PSTs are to plan units of work, a task required in this education program in the second year. Both PSTs and the supervising teachers indicated that knowledge of learners developed through interactions with focus group children, through participation by PSTs as teacher assistants in whole class literacy activities and through teaching small groups. PSTs enjoyed the opportunity to be involved in classroom activities without needing to create a detailed plan. Sabatini McLoughlin and Maslak (2003) found that one-to-one and small group work fostered PSTs' ability to pay more attention to how to interact with and learn from children without the pressure of coping with large groups. PSTs involved in this program begin to develop the knowledge of learners desired for effective teaching and to assist them with future planning tasks.

Thirdly, the small group and individual teaching experiences also provided an opportunity for PSTs to exercise and develop metacognitive skills. This is evident in the focus group interview and in PSTs' reflection journals as they express their in-action and on-action reflections. The interview showed that the PSTs' reflection resulted in their finding in their experiences new understandings about themselves and others. It also helped them to see a need or weakness in themselves, and to set personal goals that could be aided by the content provided through the university course or by a range of experiences over the course of a year.

Evaluation of programs such as the one presented here offers all parties an opportunity to express their concerns and set goals for future improvements. The study indicated several areas to be improved or extended. As PSTs had only limited opportunities to use their knowledge of learners for planning lessons, assessment tasks for coursework were aligned with the field experiences to provide the opportunity for participants to utilise their knowledge of learners. The body of knowledge gained during coursework supported PSTs in these tasks as well as during the field experience visits. Ongoing negotiation with schools is necessary to integrate assessment tasks further and to allow students to monitor children, problem solve and plan.

Further integration of assessment tasks with the classroom routine would allow teachers to be involved more formally with PSTs' assessment. A balance between the formally assessed tasks and the unplanned teaching activities would be ideal. Both PSTs and practising teachers may give insight into authentic and useful learning tasks.

The organisation required to place PSTs in schools and monitor the school experiences would be even greater on a larger regional campus where more than two school sites are required in order to place a cohort. Difficulties may also arise with encouraging teachers to volunteer to be mentors as some in this study felt that having a student in their room for four days a week for two terms was too much. Ensuring that the school communities can see the benefits of such a partnership for all participants may, however, promote and encourage such a partnership.

The results of this study show the beginnings of a collaboration that can strengthen teacher education programs through innovative methods and reduce the concerns raised about traditional practicums and university coursework. PSTs benefit as their time in schools and number of mentors increases and the theory to practice match is made. Regional and rural schools will benefit as the positive experiences that PSTs have in schools as student teachers should encourage them to continue working as teachers in rural communities (see also Hughes, this issue), engaging children in learning using the knowledge base that they have developed. These PSTs may also become advocates for the regional universities whose innovative ideas and successful learning environments exist where smaller numbers of students can be a definite advantage when attempting to make changes to traditional methods.

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