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## BEYOND THE PRACTICUM: INTEGRATING CONTENT, PEDAGOGY AND PRACTICE IN TEACHER EDUCATION

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### ABSTRACT

Teacher education courses have three broad components – subject matter (content), learning theory (pedagogy), and professional experience (the practicum). Traditionally, these three components have been taught separately but teacher education faculties are increasingly expected to integrate all three and to provide more extensive school-based experiences for pre-service teachers. Nevertheless increasing the time pre-service teachers spend in schools does not automatically lead to improved learning outcomes for teacher education graduates. This paper describes the experiences of faculty staff at the University of Canberra in delivering content and pedagogy to pre-service teachers through Teaching Clinics in school classrooms. The benefits and challenges of integrating content, pedagogy and practice through school-based delivery are discussed.

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## INTRODUCTION

The quality of teachers and of teacher education has been the subject of public debate in Australia and internationally for over two decades (Anderson 2003; Cochran-Smith and Fries 2001; Commonwealth House of Representatives 2007; Commonwealth Senate 1998; Darling-Hammond 2000; Dow 2003; OECD 2004; Furlong 2000; Garm and Karlsen 2004; Leigh and Ryan 2008). Increasingly, research suggests that one way to improve the skills of graduate teachers is through more extensive professional experience in schools. In Australia over the past decade, several government inquiries have urged teacher education faculties to develop strong and enduring links with schools to underpin the provision of authentic professional learning experiences for pre-service teachers. State and territory accreditation systems for teacher education providers are now measuring the quality and depth of school-university partnerships as a condition for professional accreditation. The future survival of Australian teacher education faculties is therefore likely to depend on the extent to which they embrace the concept of professional education, ie. providing *expertise* in teaching and learning that is grounded in teaching experience and professional practice (Furlong 2000).

This paper describes the initiative of staff in the Education Faculty at the University of Canberra to deliver content, pedagogy and practice within specific units of study through Teaching Clinics in school classrooms. The authors have conducted a preliminary study of three sites of Teaching Clinics with a view to illustrating the range of contexts in which the model can be applied, to report initial perceptions about how the model is working and to identify issues that need to be investigated through further research.

The following section examines issues surrounding the quality of teacher education provision that provide the context for this initiative. The subsequent sections of the paper describe aspects of the Teaching Clinics innovation and discuss the benefits and challenges of the model. We conclude with a brief discussion of how this type of initiative might contribute to stronger professional partnerships between schools and teacher education faculties, the potential costs and benefits of the model, and directions for further research.

## QUALITY IN TEACHER EDUCATION

It is widely acknowledged that “there is no single model of teacher education that is clearly the most effective way of preparing teachers” (Dow 2003 Vol. 1: 34). But while there is no single model of good teacher preparation, research suggests that knowledge of content (subject matter) and skills in teaching (pedagogy) are associated with effective teaching (Darling-Hammond 2000). The literature is inconclusive on the relative importance of these two aspects with some studies assuming that a graduate teacher’s depth of content knowledge is very important (Grossman 1994) while others argue that a teacher’s knowledge of the processes of teaching and learning is more highly related to quality teaching (Monk 1984, Ferguson and Womack 1993). Linda Darling-Hammond attempts to move beyond this debate by arguing that both are interdependent, because any positive effects from a teachers’ knowledge of their subject matter are augmented by knowledge of how to teach the subject to various kinds of students. In other words, “the degree of pedagogical skill may interact with subject matter knowledge to bolster or reduce teacher performance” (Darling-Hammond 2000: 5). The interaction between pedagogy and subject matter knowledge has been explored

in some detail in the academic construct known as Pedagogical Content Knowledge (PCK) developed by Shulman (1986, 1987), but there is little evidence of the application of this work in teacher education courses or in the work that teachers do. As noted within an Australian context, two decades later it still seems that PCK (the nuts and bolts of teaching) is still difficult to access even for practiced teachers, let alone pre-service teachers (Loughran, Berry & Mulhall, 2006).

Teacher education courses have traditionally delivered three broad components of learning – subject matter (content), learning theory (pedagogy), and professional experience (the practicum). In some teacher education courses, these three elements are integrated, but traditionally, they have been taught separately. A dominant theme in the literature is the struggle to integrate all three, and the tensions between them (Garm and Karlsen 2004; Lawrence and Palmer 2003).

In recent decades, it has been argued that teacher education should embrace the characteristics of professional education, in the sense of providing expertise in teaching and learning that is grounded in teaching experience and professional practice. Through this expertise, an Education Faculty would provide a bridge between the discipline studies that pre-service teachers must undertake (which are the traditional domain of universities) and the practice of teaching and learning in schools (Furlong 2000: 36). Shulman (1998:15) argues that becoming a professional involves “acquiring a deep understanding of complex practice, of ethical conduct and higher-order learning which occurs in schools and classrooms”. Louise Sutherland and her colleagues describe “professional knowledge” as the successful integration of theoretical knowledge about the situational, emotional, cognitive, physical, cultural and organisational factors that interact and impact on students’ learning with classroom practice. In order to develop professional knowledge, pre-service teachers need “opportunities to be involved in professional practice, and to reflect on and integrate the knowledge they have gained from their experiences with the theoretical knowledge provided by the institution” (Sutherland, Scanlon and Sperring 2005: 80).

A range of strategies has been proposed to promote renewal in teacher education through stronger professional partnerships between universities and schools. Over the past decade, some teacher education faculties in the UK and the USA have experimented with the employment of clinical faculty – school practitioners employed by teacher education departments in universities (Cope and Stephen 2001, Holmes Group 1995) which have had mixed outcomes. Cornbleth and Ellsworth (1995) point out that as clinical faculty seek to find a place and to bridge two institutions, they often discover that they do not meet the “traditional expectations” of either. Academic faculty, in particular, can be unwelcoming and resistant to the “clinicalisation” of teacher education, and take subtle measures to ensure that boundaries are not blurred (Bullough Jr., Hobbs, Kauchak, Crow and Stokes 1997).

In Australia, there has been a strong emphasis in government reports on expanding the length of the supervised professional experience (the practicum) in schools while lamenting the limited number of professional experience places available for pre-service teachers. The problem of insufficient numbers of professional experience places for pre-service teachers is often a symptom of ineffectual partnerships between universities and schools (Walkington 2007). A Victorian parliamentary report identified several examples of “best practice” that strengthened school-university links and increased the amount of time that pre-service teachers spent in schools. RMIT, for example, places all its pre-service teachers within one of

17 Professional Practice Communities, each of which involves a number of schools, early childhood and adult education providers (Parliament of Victoria 2005: 156).

Nevertheless, simply spending more time in schools will not necessarily enhance the quality of a pre-service teacher's learning. There is a strong case for professional experience to involve more than experiencing the norms of a typical classroom. Time spent in school should provide opportunities to engage with student learning, drawing on theoretical knowledge about teaching and learning, and reflecting on how theory can inform future classroom practice. Teacher education courses that are predominantly practice-based run the risk of being unproductive processes of classroom socialization. Entirely practice-based programs may simply induct student teachers into the "tricks of the trade" and give them minimal encouragement or opportunity to reflect on the links between theory and practice (Cole 1997, Tigchelaar and Korthagen 2004, Widdeen et al 1998). Thus policy decisions to increase the amount of time that pre-service teachers spend in schools will not automatically deliver enhanced learning experiences. Simply exposing pre-service teachers to more time in school settings is unlikely to lead to any significant change in learning outcomes unless their university teachers are actively engaged with the school setting as well.

A new approach adopted by Education Faculty staff at the University of Canberra aims to increase the quality of pre-service teachers' learning by delivering specific units of study in school settings. Students who enroll in these units will participate in school-based Teaching Clinics, in some cases during their first months of study and prior to their formal experience of the practicum. The University of Canberra model is based firstly on the principle that pre-service teachers must develop the capacity to reflect upon and learn from their teaching experiences if they are to build self-efficacy as a teacher. The second basis for pursuing these partnerships with schools is a belief that it is crucial for teacher education lecturers to be embedded, to some extent, within the school experience. To achieve this end, faculty staff members have worked to build productive partnerships with schools that successfully integrate content and pedagogy through Teaching Clinics, in addition to but separate from the established forms of supervised professional experience. The partnership involves three essential stakeholders: the pre-service teachers; their university lecturers; and teachers and staff within the school. Students attending the school who participate in the classes (and their families) are key partners as well.

## THE TEACHING CLINICS MODEL

From their strong partnerships with individual schools, several Education Faculty staff at the University of Canberra are able to provide students with authentic school-based teaching experiences within units of study. These teaching experiences give students the opportunity to "apply" their learning in a genuine and demanding setting with the support and supervision of faculty staff. In a Teaching Clinic, pre-service teachers are expected to perform structured teaching roles in a real classroom under the supervision of faculty staff and classroom teachers. The pre-service teachers are expected to reflect upon their teaching experiences and on the links between the theory and practice of what they do. Structured support is provided to facilitate purposeful reflection and evaluation of the teaching experiences. In most cases, assessment for the unit of study is based primarily on pre-service teachers' performance in the Teaching Clinic. The model is applied in many units of study across all year levels, in the fields of: Health and Movement; Science; Social and Environmental Education; Literacy Learning; and English as a Second Language (ESL). The approaches adopted in each unit of

study vary to reflect the different content and pedagogical demands of each field. Three examples are described below.

A teaching methods unit offered to students in the Graduate Diploma in Teaching (Science) and in the Bachelor of Education (PDHPE) programs is conducted within a local high school. Both pre-service students and the university lecturers work with the classroom teachers in preparing and teaching lessons within team teaching situations. University lecturers teaching the units help pre-service teachers design teaching sequences that are workable in specific classroom settings, and are on the spot to help out if they are not very successful. The use of the Teaching Clinic means that theoretical ideas about teaching in these two subject areas can be linked, immediately in some cases, to real classroom situations. Feedback from pre-service teachers suggests that the presence of the university lecturers in the classroom and their visible engagement with the school increases respect for the capacities of the university staff to prepare and deliver lessons in a real school context, rather than from a disconnected theoretical position.

Physical Education is one of the learning areas in which many primary school teachers lack confidence. Therefore pre-service primary teachers at the University of Canberra who chose to complete a minor in Health and Movement are placed in Teaching Clinics with children during their in their first semester of study. In partnership with a local sporting association, the pre-service teachers organise the activities and teach basic soccer skills and other body management skills such as spatial awareness, running, dodging and balance, to a group of 4 and 5 year olds in after school sessions. In their University tutorials, students learn the theory of how children develop physical skills and the skill components of the basic skills for all physical activity and sport (ie. fundamental motor skills). By working with the young children early in their first semester, the pre-service teachers have an opportunity to experience directly how children learn, what cognitive processes they go through and the difficulties and successes children may experience in acquiring fundamental motor skills. This provides the pre-service teacher with a realistic appreciation of the challenges involved in delivering physical education.

I now understand the importance of children learning the correct techniques at a very early age. To see them 'get it' after so much practice is so rewarding.  
(Bachelor of Education 1<sup>st</sup> year undergraduate student)

In the third year of their degree, Health and Movement students who have completed a Health and Physical Education Minor (4 subjects) participate in a school-based Teaching Clinic where they plan, implement and evaluate an eight lesson unit of work within local primary schools. The unit of work is based around the school's policies, curriculum documents and the school's scope and sequence for Physical Education. Pre-service teachers plan the Unit of work to deliver fundamental motor skills at an age-appropriate level, in the context of the Integrated unit of work that the class is currently learning. The students work in teams with a whole class supervised by the class teacher who liaises closely with the University lecturer. The teacher receives a copy of the unit once it is completed and students engage in critical feedback and evaluation sessions after each class. The Teaching Clinic model is repeated for fourth year students in their final semester, with the difference that they deliver the unit of work on their own and with higher expectations in regard to course content and student learning outcomes.

Approximately 120 Bachelor of Education students in their fourth year at the University of Canberra deliver a unit of work in Science over a five week period in local primary

schools. As suggested by Goodrum and Rennie (2007) a number of factors affect the quality of science teacher graduates entering the schooling system. In particular enhancing the partnership relationships between schools and universities has an overall affect on the quality. As argued by Dow, that excellence in science outcomes was dependent on quality teaching (Dow, 2003 cited in Goodrum and Rennie, 2007). The pre-service teachers are required to develop a programmed unit of work based on the 5E's instructional model (Bybee, 1997) that links science with literacy learning. Each week the pre-service teachers spend two and half hours in a school setting working with small groups of children (seven per group) teaching specific science content related to the school's current curriculum. The pre-service teachers work in teams of three to plan, teach and evaluate a unit of work. This also allows them to observe each other's teaching and evaluate after the teaching episode. The classroom teachers are required to be present during the teaching episodes and their input tends to increase over the course of the clinics. In addition to planning the content of their teaching episode, pre-service teachers are also required to identify and demonstrate a 'focal task' that they can review with their peers and discuss in the structured evaluation session. The 'focal tasks' include presentation skills, pupil-involvement skills, classroom management and discipline, small group skills and assessment and evaluation skills. (based on the work of Turney et al, 1973).

It was good to be part of a team-teaching situation where I could learn from my peers on how they interact with the students (Bachelor of Education 4th year undergraduate student).

...a necessary experience... it makes teaching science real/significant and reinforces what we learn at university about teaching students science (Bachelor of Education 4th year undergraduate student).

## PARTICIPANTS' PERCEPTIONS OF TEACHING CLINICS

The response to Teaching Clinics from faculty staff, school teachers and pre-service students has been positive. The University of Canberra's Education Faculty see many advantages in integrating content and pedagogy into school-base practice within Teaching Clinics. The most obvious outcome is a noticeable increase in the level of professional confidence and self-efficacy among pre-service teachers. Working with their lecturers to apply knowledge immediately in a school setting reduces the "theory/practice" divide and increases student satisfaction with the course. Students within the Graduate Diploma in Education, for example, commented widely on the benefits of the Teaching Methods unit in preparing them for their first Professional Experience placement and felt that they were 'ahead' of their fellow students from other discipline areas who had not had a similar experience.

Feedback about the Teaching Clinics model from pre-service teachers in Health and Movement over many years has been extremely positive. They feel it not only helps them with their teaching of Physical Education but with their student management, planning and confidence in general. By the end of their four year degree, graduates have experienced three Teaching Clinics in primary schools. By scaffolding their knowledge and skills through Teaching Clinics, the self-confidence and professional expectations of pre-service teachers are enhanced.

This (Teaching Clinic) was the hardest thing I have had to do so far in my degree, but I now feel so motivated to be a positive role model and teach my

children, not just play games! (Bachelor of Education 3rd year undergraduate student)

Engaging pre-service teachers in Teaching Clinics during their final year of study gives them the opportunity to build on their existing science knowledge and develop a broader range of skills in the teaching of science to young children. The pre-service teacher education students are then able to explore a range of science concepts as well as recognising the importance of science-specific pedagogy; and, identify the opportunities for creative integration of science learning activities when programming. Teaching Clinics provide final year students with opportunities to engage with a range of innovative science teaching approaches in a classroom context and to reflect on these experiences in a structured way that enhances the development of personal pedagogic frameworks.

It's a great confidence builder to apply the theory and to know the lessons I'm preparing are engaging and see the children learning from them (Bachelor of Education 4<sup>th</sup> year science student)

One of the noticeable outcomes from the Teaching Clinics in science education has been the development and increased level of Pedagogical Content Knowledge (PCK) of the pre-service teachers in the area of science education. They have been able to connect the content to the teaching in a 'real' context that they can reflect upon over time. Following Gess-Newsome and Lederman (1999), the Teaching Clinics are a mechanism to re-focus educators' attention on the important role of subject matter in educational practice and away from the more generic approach to teacher education.

Faculty staff believe that the assessment process is enhanced through the Teaching Clinics model because students are being assessed on how well they *apply* their knowledge in a professional setting. Without the school-based practice, faculty staff members must rely on proxy forms of assessment of teaching skill such as an essay or a role play. Assessing pre-service teachers' subject-specific knowledge and teaching skills on-site fulfils the promise of professional education, by developing students' *expertise* in teaching specific content knowledge through assessing their application of knowledge and skills in authentic teaching tasks.

There has been a noticeable 'flow-on' effect in terms of benefits for the schools, with classroom teachers becoming increasingly engaged in the Teaching Clinics. The feedback from the schools and involved in the Teaching Clinics has also been positive.

It was great. Our students were able to work in small groups with hands on science equipment learning different science topics (Primary school principal)

## THE CHALLENGES OF MOVING BEYOND THE PRACTICUM

All forms of professional education require resources to establish and maintain relationships, and Teaching Clinics are no exception. Based on strong and productive partnerships between education faculties and individual schools, Teaching Clinics require a level of co-ordination and support of a different kind to the traditional forms of supervised professional experience. The Teaching Clinics model depends largely on the willingness of faculty staff to engage with schools and school teachers on a constructive and respectful basis. The attitudes of faculty staff encountered by Bullough Jr et al. (1997) are a major barrier to building effective

partnerships with schools. Any attempt to introduce a Teaching Clinics model on a faculty-wide basis would be risky and potentially unproductive without the enthusiasm and a high degree of preparation among faculty staff. The resources involved in maintaining strong and productive relationships with external partners, particularly in terms of faculty time, should not be overlooked.

The main practical costs of Teaching Clinics are those of providing salaries and training for lecturers and for additional tutors to help supervise on-site delivery. University staff commit extra time to the clinics that in every case goes beyond their teaching load and this will probably become a significant financial issue as more staff on the faculty take part. Additional tutors are also required for Teaching Clinics. In the future, there is the potential for these tutors to be the classroom teachers themselves. The cost of facilities and equipment are generally low, as they are provided by schools, but in some cases, schools are not adequately resourced to provide facilities and equipment and these are supplemented by the university. These costs need to be considered in the general context of a decline in the operating resources for teacher education faculties and the already high costs of professional experience provision (Deloitte and Touche 1999; Goodrum, Hackling and Rennie 2001: Table 2.14; Ramsey 2000, Chapter 9).

Teaching Clinics are becoming popular in Canberra and a growing number of schools are expressing an interest in participating. As the level of interest grows, it is likely that faculty staff will need additional administrative support. A skilled coordinator to assist in developing and maintaining relationships with schools and to be a contact point for schools wanting to participate would be a useful resource. This person could work on maintaining effective liaison with partnering schools; help develop a unified policy and protocols to underpin the partnerships and organize coaching for faculty staff seeking to expand into this area. In larger jurisdictions, there may be geographical and logistical limits to the extent to which partnerships can develop (Sutherland et al. 2004). The partnering schools must be within easy access of the university, both for staff and students.

There are costs to the participating schools but at this stage, they appear to be outweighed by the benefits schools receive. The teaching program of the schools – particularly the timetable – must be compatible with the teaching cycle of the university. The Canberra schools involved in Teaching Clinics have made considerable contributions to the program, particularly in changing their timetables to meet the university's requirements. Most schools also provide a designated room for the pre-service teachers to meet prior to lessons and in which to conduct the evaluation sessions afterward. A letter of agreement has been developed between the participating schools and the University, which establishes clear expectations, roles and responsibilities of the classroom teacher and the pre-service teacher.

The sustainability of these partnerships with schools will also rely on the continuing support of school authorities. Given the increasingly legal context of schooling, it is no longer tenable for teacher education faculties to liaise directly with schools without the explicit support of employing authorities, who have the power to veto innovative partnerships.

Further research is needed to improve our understanding of the impact of Teaching Clinics on the quality of pedagogical learning among pre-service teachers. A long-term study of the program would enable us to monitor changes in student learning, to gather substantive evidence about how participants engage with the program and to better understand the basis

for building university-school partnerships to support the Teaching Clinics model in the future.

## CONCLUSION

The development of Teaching Clinics in Canberra schools is consistent with the recommendations of the Holmes Group in 1995 which envisaged schools as places where both teacher educators and could systematically inquire into practice and improve it. As a result of the Holmes study, there are now some 1000 Professional Development schools across 40 states in the USA which provide a basis for intensive and sustained collaboration between teachers and education faculties (University of South Carolina 2005).

Drawing on Wenger's (1998) notion of a community of practice, Bullough Jr et al. suggest that effective partnerships must be built around shared practices, through which the partners are able to negotiate diverging meaning and perspectives. "... university-based teacher educators and representatives from the schools . . . must encounter one another in consistent, sustained and valued interaction *and shared work*, and the agenda for interaction must not be set by only one side or the other. When this happens, collaborative university/school partnerships may emerge" (Bullough Jr et al. 2004: 513, our italics).

The Teaching Clinics model developed by the University of Canberra is extending the scope of professional education for pre-service teachers by integrating content and pedagogy with school-based practice. The Clinics provide situated experiences in teaching and learning that are valued highly by faculty staff, pre-service teachers and participating schools. Built on a strong and purposeful partnership, Teaching Clinics are a small but promising step towards more sustained and valued interactions between teacher educators and professional teachers in schools.

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