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Towards Optimal Student Engagement in Teacher Education

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ABSTRACT

This article, written by a teacher educator who won an AUTC National Teaching Award in 2003, focuses on the strategies that might be used in teacher education programs as distinct from addressing subject matter concerns. Endorsing the need for optimal engagement, the article posits a model combining student centred learning (arguing that some strategies by their very nature require greater degrees of student exploration and interaction); problematic and situated learning which finds an ideal expression in case method; and more far reaching expressions of field-based experience including team teaching on site, mentoring and community based professional development.

Introduction

Teacher education in Australia continues to be informed by two major trends: the perennial issue of achieving a greater integration between theory and practice, and an evolving view of how students learn.

In part recognition of the need to integrate theory and practice, the UK *Education Reform Bill* of 1987 restructured teacher education in Britain so that schools enjoy more responsibility in developing teacher education programs and in contracting universities to implement their own programs. Prospective teachers therefore spend a significant amount of their time in schools. In the USA, 'professional development schools' are typically affiliated with a university, and the teachers work with academics to train prospective teachers (see Sandholtz and Finan 1998).

While such structural provision involving the opportunities of frequent teaching practice for prospective teachers in schools, potentially facilitates the link between theory and practice, the same support is not available in Australia. There has though always been a loose *de facto* relationship between schools and universities by which prospective teachers are placed in schools for practicum periods and supported by cooperating teachers. These practicum 'blocks' typically occur once each semester, though some teacher training institutions are less regular in their placements.

There are of course a range of strategies for demonstrating the relationship between theory and practice, ranging from the lecturer elucidating the practical implications of a theory, to the prospective teacher practising, and subsequently reflecting on the relationship.

Apart from the many benefits of time spent in schools, including acquiring an understanding of student needs, abilities and characteristics, and the modus operandi and culture of schools, there are specific reasons for endorsing frequent school practice relating to the theory-practice relationship:

∞ It enables learned skills and knowledge to be applied in context.

∞ It enables prospective teachers to explore the practical expressions of theory.

∞ It allows for the transfer of learning between practice contexts (different classes, teaching units, and schools).

∞ It promotes a mutually enriching and synergetic relationship between theory and practice; and

∞ It generates theory building from practice.

A second trend is the burgeoning impact of constructivism as an explanation of student learning. Schunk (2004: 286) argues that constructivism is not a theory, but rather an epistemology or philosophical explanation about the nature of learning'. As Cobb (1994: 4) observes, it 'is often reduced to the mantra like slogan that students construct their own knowledge.' This notion that learners actively construct their knowledge rather than it being transmitted by teachers, poses the inevitable question of how such construction occurs.

Social constructivists believe that knowledge is internally constructed both as a result of their experiences, the context in which learning occurs, and dialogue with others. So the teacher's ability to create 'learning conversations' with and among students, is fundamental to the construction of knowledge.

While it is problematic to identify one model of teaching practice from the epistemology or philosophy of constructivism, it is generally interpreted to mean students accepting responsibility for learning, and learning from a community of learners through learning conversations. Whatever model of practice is espoused, there is evidence to suggest that universities around the world are introducing their teacher education students to constructivist notions of learning (Wells and Claxton 2002). Constructivism has influenced many current learner-centred, problem-based and integrated curricula.

This article reports a model for teacher education that fosters the integration of theory and practice through work-based learning, and is consistent with the philosophy of constructivism in promoting student-centred and problematic/situated learning. It combines three broad and interacting areas:
∞ Student-centred learning that facilitates learning conversations between prospective teachers, and thereby allows for personal constructions of knowledge.
∞ Work-based learning that ensures a fuller integration between theory and practice, and promotes learning conversations with a community of learners (teachers, academics and prospective teachers).
∞ Situated and problematic learning that is consistent with the central tenet of constructivism that the world can be constructed in many different ways, and that these views can therefore be contested.

Student-Centred Learning

Work-Based
Learning

'Situated' & Problematic
Learning
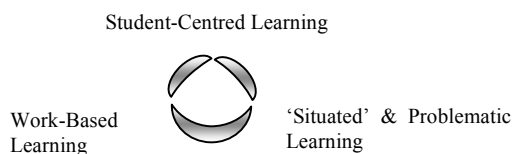
Student centred learning
There is no single model of pedagogy or class organization that characterises student-centred learning. Students may work individually on contracts, in learning centres or in small groups. While learner-centred approaches may involve independent work, there is a common perception that learning is facilitated by interaction with other learners. Bruner (1996:84) links constructivism and cooperative/collaborative learning (an expression of student-centred learning) in his claim that learning should be 'participatory, proactive, communal, collaborative and given over to the construction of meanings rather than receiving them'.

The relatively recent growth in student centred learning may be explained in part by changing perceptions of learning and the learner, the philosophy of constructivism (Schunk, 2004), and even changes in the interpretation of equity.

While there was a dominant,' traditional' or didactic teaching model throughout the twentieth century, normally related to the transmission of information, progressive

education with its student centred emphasis, came to the fore in the 1970s. It prototypically promoted all round development rather than focused exclusively on intellectual development; perceived the teacher's role as facilitating rather than instructing; focused on student participation rather than teacher control; encouraged 'learning by doing' as opposed to formal learning; and emphasised student autonomy rather than external discipline. Such contrasts are of course simplistic, and the progressivism and student-centredness of the 1970s and 1980s, often reflected in 'the literature of the disaffected' (Postman and Weingartner 1975; Illich 1974; Reimer 1974; Goodman 1973) have evolved to embrace more explicit teaching.

Constructivism emphasises the interaction of students and situations in the acquisition of knowledge, and is therefore consistent with many expressions of student-centred learning. One basic assumption is that students are active learners and therefore construct their own knowledge. The implication for teachers is that they should structure classroom activities so that students become actively involved in interacting with others.

The impact of changes in the interpretation of equity, notably from the 1970s with the non-sexist, non-racist, and inclusion movements, and even with the advent of outcomes based education in Australia in the early 1990s, has involved a focus on the needs of individual students, and arguably a corresponding diminution of lock-step traditional teaching. This focus on individuals rather than a class of students is arguably more an expression of student-centred than traditional or didactic teaching.

When students are active in their learning, they are more likely to be engaged. Parsons, Hinson and Sardo-Brown (2001) nominate three characteristics of high student engagement: autonomy or permitting student responsibility for their own learning; interaction or encouraging dialogue between students and with the teacher; and exploration through higher order thinking skills. While it must be acknowledged that students may be engaged in the relatively passive role of being rapt in a formal lecture, there are some activities that by their very nature involve high degrees of interaction and exploration. A brief outline of a selection of these follows:

∞ Discussion requires student interaction and exploration of ideas. Larson (1997) identified four discussion types: open ended conversations about a topic; Socratic questions by which the teacher progressively challenges student thinking; application oriented discussions about the way in which learning relates to the outside world; and discussions focusing on investigative process. The open-ended discussion is probably the most common in schools and higher education.

∞ Brainstorming (Lang, McBeath and Hebert 1995) is an initiating process by which many ideas are generated with the purpose of exploring them later. While it enables students to interact freely and explore the limits of their creative response, some may be challenged by the non-analytical nature of the initial process.

∞ Problem solving (Orlich, Harder, Callahan, Trevison and Brown 2004) involves students in exploring information to solve a problem, and then, typically in interaction with others, following an appropriate problem solving procedure. Such a process typically includes identifying the problem, defining it, establishing parameters for investigation, determining probable solutions and the action needed for each, and selecting a solution.

∞ Role play (Brady and Scully 2005) is a spontaneous unrehearsed verbal exchange between two or more players to explore a proposed solution. It enables students to 'decentre' or step outside their accustomed role in interacting with another, and thereby to achieve insights into themselves and others. Students are able to explore

their real beliefs and values without the fear of reprisal.

∞ Values clarification (Brady and Scully 2005) is based on the principle of moral relativity (everyone has the freedom to make their own moral choices), and involves the provision of valuing strategies by which students explore their values in interaction with peers by adopting a process of making choices freely, from alternatives, after reflection, prizing and affirming the choice, and acting not just once but repeatedly on the choice.

∞ Open questioning involves successively building on student understanding by eliciting exploration through thought provoking responses. Teachers may also ask closed questions that typically elicit a naming response or an answer requiring minimal use of language. Good and Brophy (2003) are critical of 'yes-no questions', 'tugging' (requiring more elaborate response but providing no structure for it), guessing, and 'leading questions' which pre-empt an answer.

∞ Think-pair-share (Baloche 1998; Putnam 1997) requires students to consider an issue individually, prior to interacting in pairs. Each pair typically reports to the remainder of the class.

∞ Simulations (Marsh 2004) require students to 'act' in simulated contexts or outside situations that provide a representation of the real world. In teacher education, they are valuable in exploring leadership and relationships with parents and para-professionals. Microteaching is the foremost expression of simulation.

∞ Snowball groups require students to work in pairs to provide a definition, describe a concept or develop criteria. Two pairs are then combined to form a four, and when a consensus is achieved, the new group combines with another four to form an eight. Lang, McBeath and Hebert (1995) implement the same concept but with different numbers. They call their groups one-three-six consensus groups.

∞ Jigsaw groups (Slavin 1995) require each student in a group to learn material

and then to meet with students from other groups who have studied the same topic. Students discuss the topic in their 'expert' groups before returning to the original group to teach their topic to other team members.

∞ Learning centres (Lang, McBeath and Hebert 1995) require separate centres in the classroom which contain tasks and materials for students to complete individually and sometimes in groups. While associated with individual learning contracts in schools, the library or curriculum resources room is arguably a better substitute in universities. The author has prospective teachers work in pairs in learning centres, completing tasks about learning centres to learn about learning centres.

These student-centred strategies are already in use in teacher education programs, but their further use has the potential to enhance learning by increasing the degree of active student engagement. While there is a place for explicit teaching in some areas, increasing student autonomy, interaction and exploration enables students to better construct their own meanings, and to view teaching as complex rather than a set of predictable and routine behaviours.

Problematic and situated learning

The NSW Ministerial Advisory Council on the Quality of Teaching (MACQT 1998) report recommended that teaching be problematic in that it yield no simple answers, and 'contextualised' rather than isolated from the situation to which it applies. The notion of problematic learning is not new. In the early 1970s, Postman and Weingartner (1975: 203) identified a number of 'archaic canons' including the concept of absolute, fixed, unchanging truth; the concept of certainty involving only one right answer; and the concept of 'simple, single, mechanical causality'. In their endorsement of inquiry as a counter to certainty and immutable truth, they

facetiously support limiting teachers to three declarative sentences per class, and fifteen interrogatives. Notions of knowledge as contestable have been further nourished by constructivism since the 1970s.

Schunk (2004:287) implicitly argues the problematic nature of knowledge, claiming that rather than viewing knowledge as truth, constructivism regards it as 'a working hypothesis'. He contends that 'knowledge is not imposed from outside people but rather formed inside them. A person's constructions are true to that person but not necessarily to anyone else'.

Cases are an ideal expression of learning that is both problematic and situated. In teacher education, a case is a real account of a problematic experience in a classroom or school. While variable in length (one to five pages), it is crafted from meticulously collected information including interviews with teachers and examination of documents. It provides students opportunities to appraise the general and specific issues influencing the choices teachers make, and to consider the causes and consequences of these decisions. It is situated because it applies to the context in which teachers' work operates.

Shulman (1992) claims that the word 'case' suggests 'a case of something' and as such deserves more serious consideration than an isolated account or anecdote of a teacher's experience. To dub something a case is to indicate that it is one of a class of events, and therefore has more value than the specific detail of the account. So a case selected to examine one area of a teacher's work, for example motivation, may also have value as a case of something else, for instance management or preparation.

So the cases reported in Brady (2003, 1999), while focusing on areas relating to the classroom (management, motivation, preparation, assessment, reporting, relationships with school students, classroom climate and teaching methods); the school (professional development, supervision of staff, duty of care, pastoral care); and the community (relationships with parents and para-professionals), all have the 'potential for reinterpretation and multiple representation (Shulman 1992:17).

The use of cases has many benefits. First it develops an understanding of context. The case method is 'situated' in that it presents problematic teaching situations in context. The challenging of simplistic solutions by variable contexts is often a welcome departure from teacher education programs that teach generic areas like classroom management and teaching strategies with little consideration of different situations. Wade and Moje's (1997) study confirms such a claim in demonstrating that students initially framed cases in a 'technical' and 'rational' way rather than located them 'outside' in the appropriate cultural or political context.

Second, cases promote collaborative learning, as students in their discussion of a case, learn from the multiple perspectives of each other, and thereby construct their own meaning. This benefit of a 'community of learners' is given further credence by the findings of Harrington (1997) that no single student identified or discussed all the issues embedded in a case, but that all were addressed by the group.

Third, cases promote critical thinking and problem solving because they are problematic, defy glib solutions, and are context based. The discussion of a case typically involves identifying a problem, justifying it, and considering a variety of different perspectives. This consideration provides what Shulman (1992) calls 'an antidote to the dangers of over-generalising'.
Fourth, cases foster an appreciation of the complexity of teaching. Teaching is not a

grab bag of techniques or a defined list of predictable skills to be invoked by cue. It is an extraordinarily complex process and cases provide insight into this complexity. As Merseth (1991:116) claims, cases 'send a powerful message that teaching is complex, contextual and reflective'.

Discussion, either in the full class or groups, is the strategy for implementing cases. They have their optimum value when students consider and react to the views of others, express their thoughts and feelings, and subject proposed solutions to critical examination.

Levin's (1995) study of pre-service and practising teachers learning from cases under two conditions (reading, discussion and writing, versus reading, no discussion, and writing) found that discussion for pre-service teachers encouraged clarification and elaboration of thinking, and for practising teachers it promoted reflection and meta-cognition. Without discussion, teachers 'reiterated their original thinking about the case, solidifying and reinforcing their responses rather than gaining any new perspectives' (p. 75).

Lundeberg's (1997) investigation of methods for facilitating discussion, found that students preferred a relatively informal discussion, and that the circle was the most appropriate structure to facilitate such a discussion.

Providing students with opportunities to write their own cases is another valuable expression of the case method. While based on relatively little teaching experience, it enables students to become participant observers and ethnographic researchers.

Another contemporary strategy for promoting student centred learning is the use of on line, not through the provision of teaching material, but through promoting discussion forums in which students can 'chat' about their assignments, practice

teaching, or aspects of the subject. In one B.Ed cohort, the author has formed discussion forums of eight students, each of which includes a practising teacher as forum leader. Such a strategy is very valuable in situating learning, and in achieving a strong integration of theory and practice.

As Schunk (2002:287) claims, constructivists refute the idea that scientific truths exist outside the learner, and that 'no statement can be assumed as true but rather should be viewed with reasonable doubt'. While students may learn a variety of strategies for directing and managing teaching, their relevance for practice is variable according to context and even teacher disposition. As cases are problematic and situated, they challenge simplistic interpretations. Furthermore, they are consistent with the philosophy of constructivism in that they engage students, and promote collaborative learning. They also exemplify the connections between theory and practice.

Work-based learning
The need for work-based learning is a truism for training in all the professions. Teacher educators argue the need for more school practice in the belief that it will enable prospective teachers to see the demonstration of theory. These students often possess a significant knowledge about teaching but often don't have sufficient opportunity to apply what might, without practice, become a commodity simply to be accrued and banked (Freire 1970).

Practice may also be useful in generating new theories. It may promote an understanding of the ways in which theory might be changed, or engender an appreciation of the multiplicity of context factors that challenge single theory explanations.
For many years a relationship has existed by which schools assisted teacher

educators in implementing the practicum component of teacher education programs. In Australia, these arrangements involve day release and block practicums, and in the fourth or final year of teacher training, have sometimes taken the form of apprenticeships or internships in which the student is given charge of a class, and is subject to the same accountabilities as practising teachers.

The Ramsey Review (*Quality Matters* 2000) gave further impetus to partnership initiatives in recommendations relating to the creation of the *Institute of Teachers*. The nature of the partnerships however have not been explicated beyond collaboration in the development of 'criteria, processes and procedures' for accrediting schools providing professional development for pre-service teachers, and the definition of roles in the induction of beginning teachers.

There have been a limited number of partnership forays in recent years, notably those at Deakin (Sealey, Robson and Hutchins 1997), Victoria University of Technology (Kruger, Cherednichenko and Hooley 2001), the University of Sydney (Merritt and Campbell 1999), the University of Western Sydney (Woodward and Sinclair-Gaffey 1995) and the University of Technology Sydney (Brady 2000). The study of Brady (2002) suggests that the extent of such partnerships is not commensurate with the expressions of potential support for them in schools.

Brady's (2002) survey of all 1800 state primary school principals in NSW on their support for a broad range of school university partnership activities, found uniformly strong support for all 25 items encompassing shared teaching initiatives, supervision and mentoring, joint action research, professional development, and school support and enrichment. Brady (2002:6) concludes that 'the real significance of the study's findings is the overwhelming willingness of principals to

embrace a broad range of partnership activities which are not an integral part of current practice, and which, if developed, will have significant implications for changing the nature of schooling and teacher education'.

Following are numerous work-based learning activities which have been conducted in partnership with schools and UTS and which are not an integral part of widespread current practice:

∞ *Team teaching on site*. This involves teacher educators taking classes of students to schools, and teaching them there while drawing on the expertise of practising teachers. A session on classroom management for instance might be followed by asking teachers what they do to manage their students.

∞ *Mentoring of school students*. This involves students visiting a school for ten consecutive weeks, and working one-on-one with school students who are identified as challenged in a particular learning area. This expression of partnership benefits the students in acquiring teaching practice; it benefits the school students in receiving individual tuition; and it benefits the teacher who is freed from catering to more levels of ability.

∞ *Community based professional development*. This involves students being included in professional development initiatives within schools. It typically occurs during conventional practicums, but there are further discrete expressions. For instance, lecturers who have collected research data in a school are encouraged to return to the school to report their findings, but to take a class of students and to include parents in a community professional development forum.

∞ *School-based action research*. This involves students initiating in a school a small research project that is identified by the school as a research need. If this proves difficult, they can work with the teachers on an already school initiated and school owned research project.

∞ *School support and enrichment*. This involves students responding to invited requests from schools for assistance. While not built systematically into the teacher education program, it typically includes requests to help organise swimming or athletics carnivals, and it may involve drama students visiting schools to perform for school students.

∞ *Negotiated practicum*. Towards the end of the teacher education program, students can nominate two strands or aspects of practice in which they feel challenged. For instance, they may never have taught kindergarten or ESL or worked in the school library or resource centre. They are then permitted to negotiate these aspects of practice with schools.

Of course, such work-based learning initiatives must be informed by the teaching that occurs on campus. Mentoring in schools relates to a subject on student-centred learning that focuses on small group work and curriculum differentiation; and action research in schools relates to a subject on research method.

All subjects in the practicum or professional studies strand in teacher education at UTS include assessment relating to school experience. Typical examples include designing, implementing and evaluating learning experiences in a field placement, justifying the learning experiences as appropriate for the context, and relating these phases to the relevant literature; or interviewing a practising teacher, appraising the context in which the teacher works, and analysing the teacher's assessment practice using the literature.

Increased teaching practice in schools, and enhanced opportunities for school-based involvement in action research, professional development and school support, promote a greater understanding of teaching, the culture of schools and the profession. Demonstrations, video of teaching episodes, micro-teaching and related simulations are valuable in teacher education programs, but are not sufficient as a substitute for work-based practice. Working in classrooms and schools enables prospective teachers to demonstrate and generate theory, and thereby develop a synergetic relationship between theory and practice.

Conclusion

It has not been the intention of this article to be prescriptive, or to imply that the three dimensions of the reported model comprise the total teacher education experience. As in school classrooms, teachers at universities tend to select only a few teaching strategies that are congenial to them, and in doing so, they unwittingly discriminate against students who learn in different ways. While teaching at any level is not a set of codified behaviours or grab bag of techniques, it is important that teacher educators have a full repertoire of strategies that can be used according to student need or learning outcome. A large part of this repertoire should ideally include strategies that require a high degree of student exploration and interaction, and which are problematic, situated and embedded in school practice.

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