Essay

Accessing Professional Artistry: The Importance of Cooperative Education and the Limitations of Classical Research

Sheila Grainger

Christchurch College of Education – Nelson Campus, PO Box 10-12 Nelson, New Zealand

In this paper the author argues that cooperative education, in the form or practicums, form an essential part of teacher training and is the means by which academic content or professional knowledge gains real value. Through their practical craft, or *artistry*, practitioners implement their professional or academic knowledge base, so it can be employed for the purposes it was intended, whether this is to design a technological solution to an industrial problem, or to educate children. Research in education is driven by paradigms that fail to take account of the complexity of the teaching environment. A more holistic approach to teacher education is required and the author suggests that cooperative education has the potential to play an important role in the education of teacher trainees. Research into cooperative education likewise needs to be developed via a holistic approach using qualitative or interpretative strategies (*Asia-Pacific Journal of Cooperative Education, 2001, 2(1), 1-5*).

Keywords: teacher training, practicum, research paradigm

Schon (1987, p. 13) defines artistry as "the competence by which practitioners actually handle indeterminate zones of practice - however that competence may relate to technical rationality." Throughout this paper the term artistry is used more broadly to identify the holistic competence with which the professional translates knowledge or theories, whatever they may be, whatever their theoretical underpinnings, into effective action in the practical context of the work place.

Based on an analysis of current educational trends, and a review of the literature, in this essay, the author aims to establish three issues. To:

1. Demonstrate the importance of professional artistry
2. Explore how it may be enhanced through cooperative Education
3. Investigate the impact of institutionalised academic traditions on the development of cooperative education in professional education programmes.

It should be noted that in teacher education programmes the work based learning situation is known as the professional practice or the teaching practicum.

Current Trends in Teacher Education

School education in New Zealand has experienced a decade of unprecedented change. The devolution of responsibilities from local education boards to individual school boards in the 1980s (Lange, 1988) was accompanied by increased centralisation of curriculum, a more definitive legislative framework, increased accountability measures for educators, and a shift towards market forces policies with their competitive, rather than cooperative values (Jesson, 2000). Professional education has understandably had to move with these changes, providing courses to meet market demands, and changed professional conditions. Changes in teacher education have been characterised by changes in delivery methods (e.g., distance courses to meet market conditions), changes in content (e.g., appraisal and assessment skills), to meet accountability demands and changes in qualification level (e.g., degree courses to meet the demands of an employment market) which seems to be in the grip of spiralling credential inflation. These developments mean that the shape of teacher education programs and the value balance between their academic and cooperative education components have come under closer scrutiny.

Correspondence to: Sheila Grainger, email: sheila.grainger@xtra.co.nz

Cooperative education is often criticised as lacking in academic rigour. While it may be seen as an effective *training* strategy, it is typically discounted as an *educational* strategy (Van Gyn, Cutt, Loken, & Ricks 1997, cited in Eames, 1999). Cooperative education can therefore be undervalued and seen as the 'poor relation' of professional learning programs, as this view tends to valorise academic content knowledge over the professional craft of practitioners, downgrading the importance of being able to *implement* the academic knowledge learned in the college or university environment.

This paper, on the other hand, argues that cooperative education is the means by which academic content or professional knowledge gains real value, as it is only at the implementation stage that academic knowledge has any value to the community it seeks to serve, and it is only when they are implementing their ever developing professional knowledge, that students can reflect and receive feedback on how they are putting into practice what it is they have learned. Through their practical craft, or *artistry*, practitioners implement their professional or academic knowledge base, so it can be employed for the purposes it was intended, whether this be to design a technological solution to an industrial problem, or to educate needy children.

Review of the Literature

While Eames (1999), found that graduates of the Waikato University BSc(Technology) program, perceived that a range of learning occurred on work placement; work specific skills, work generic skills, interpersonal skills and understanding of organisational operation and culture, he also points to "the paucity of knowledge about learning in the work placement, due in part to a lack of educational research expertise amongst co-op practitioners."

This point re the paucity of research into work placements is echoed in the paucity of the research into the practice of teaching (Glass, 1972; Shulman, 1987) and is pivotal to the acceptance and development of cooperative education in academic programs. This is in turn pivotal to the acceptance of the professional artistry paradigm, which emphasises the competence of the professional in applying their professional knowledge base to an indeterminate range of infinitely variable problems, as opposed to the technical rationality paradigm, which emphasises the application of pre-learned techniques to a finite range of recurring problems. One way to explain cooperative education's slow acceptance in academia to date, is to link it to the limitations of classical research traditions, which on the whole fail to capture, celebrate and maximise professional artistry.

It is clear that traditional research methods in some way limit teachers in their recognition and pursuit of professional artistry: "there is probably more knowledge in the nervous system of 10 excellent teachers that an average teacher can distil from all the educational journals in existence" (Glass, 1972, p. 11). However, in three years as a teacher educator the author has found that even experienced teachers are often unaware of the considerable practical skills they possess and the high levels of professional expertise they bring to their work. Associate teachers (i.e., experienced teachers who host student teachers in their classroom) find it difficult to give specific focusing directions to students who are on teaching practice. Associate teachers undervalue their own abilities and underestimate the complexities of the tasks they perform. So, for example, they do not think about how their voice and stance in the classroom create a "teacher presence" which predisposes their pupils to engage with them in the learning experience.

Calderhead & Robson (1991) would suggest that this is because the knowledge base of experienced teachers is so well organised as to be constantly, but sub-consciously implemented, and Britzman (1991) and Zeichner and Liston (1996), among others, believe that teachers' practical theories are so embedded in the social practices of teaching that they challenge the traditional view of the relationship between, or rather the separation of, theory and practice. While these are powerful arguments for cooperative education as a professional education tool, suggesting as they do, that much of value in teaching can only be learned in the work place, paradoxically they also place cooperative education in a self-perpetuating cycle of disadvantage, for this lack of self-cognition has ramifications at all levels of the education system. If teachers themselves do not recognise their own talents, how can these become recognised by the educational hierarchy which directs, appraises and resources their professional development? Furthermore, how difficult will it be to evaluate, or even identify, the types of learning experiences obtained by students during the practicum?

Researchers in the classical tradition, as exemplified in the university system, have ready-made feedback mechanisms, (e.g., refereed journals), through which to disseminate their findings. This same mechanism also operates a sort of gate keeping system that perpetuates the academic tradition and rebuffs approaches from the uninitiated. The very genre of research reports can alienate teachers from reading them. A teacher's professional mission is to make things as clear and simple as possible for their pupils; they use metaphors, personalise teaching content and try to get their pupils to connect with what is being taught. Research reports, on the other hand, use the third person and are full of technical jargon that can obfuscate their meaning, alienating practitioners from reading them. Little wonder then that for educators, "theory" as elucidated through research, is often a "four letter word" (Morine-Dershimer, 1986, p. 59).

Other possible reasons for their alienation from research, can probably be linked to research methods which colonise teachers' experiences and "characterise the teacher as one variable within the classroom" (Freeman, 1994, p79), thereby limiting their expectations of how research can enhance their practice. These systems "are embedded in the very institutional structures of universities…These structures, in turn, create a kind of institutionalised violence that is used to protect the epistemological stances that underlie an institution's perceived legitimacy" (Anderson & Herr, 1999, p. 12)

As yet neither teachers, nor the advocates of cooperative education, have a widely accepted mechanism for informing

theory, nor a vocabulary through which to discuss their artistry, within and beyond their own communities of learners. Just as the indigenous people of New Zealand, need to resurrect and preserve *te reo Maori* (the Maori language) so as to ensure that cultural concepts which are highly significant to them are appreciated by subsequent generations, so the teaching profession and cooperative education educators need to develop a language which encapsulates their skill base in such a way that it can denote the complex value of the professional practicum and be readily communicated within and beyond the profession. For example, elements of cooperative education current vocabulary "work supervisors" and "co-workers" (Eames, 1999) reinforce the technical rationality paradigm that reduces the value of the learning, which occurs in practice through interaction with experienced practitioners. In teaching, the practitioner-technician approach tends to locate the problems of practice in the students and their actions and seeks techniques to fix the deviant behaviour, rather than exploring the holistic context in which both the students' behaviour and the teacher's response to it are taking place. (Zeichner & Liston, 1996) Experience of the holistic context of the workplace is a key goal of cooperative education, in recognition of the fact that there are many different levels at which learning may occur while on placement.

In using the term 'work supervisors' in cooperative education, the impression is created that students are closely monitored, according to rigorous criteria, in skills that can be learned and 'ticked off' on a checklist. Used in juxta position with 'co-workers' this impression is amplified, as it differentiates the supervisor from a class of people whose work must be 'supervised.' In reality, the richness of the cooperative education learning experience transcends such a limiting paradigm, providing, if carefully structured, the opportunity for the student to explore human agency, and social context as part of the holistic frame of the problems, which occur in practice, and the means to their solution (Schon, 1983, 1987).

It could be argued that the greatest development need of teachers is not for more professional knowledge from external sources, but for greater self examination skills and higher levels of self awareness to appreciate the skills they already have, and their relevance to the contexts in which they work, in order to maximise the learning opportunities offered during the practicum. Perhaps they need to be more confident in the face of intimidating academia, so they can see how their practice is not only informed by, but also contributes to, educational theory. A more cooperative research model, with teachers and researchers collaborating, or a model which turns the relationship between professional competence and professional knowledge upside down and starts: "not by asking how to make better use of research based knowledge, but by asking what we can learn from a careful examination of artistry" (Schon, 1987, p. 13, is much more appropriate in teaching and cooperative education situations.

Schulman (1987, p. 1) bemoans the lack of "richly developed portrayals of expertise in teaching." He feels that too many research categorisations of effective teacher characteristics dwell on the teacher's ability to simply manage the classroom, whereas teachers also manage ideas, classroom discourse and the complex social behaviour which makes up the interactions between and with 30 or so children. Schon (1987, p. 10) reflects a similar dissatisfaction across other professions; "in recent years there has been a growing perception that researchers, who are supposed to feed the professional schools with useful knowledge, have less and less to say that practitioners find useful."

This is a crucial limitation because so many decisions which affect teaching and learning are made at the political level, based on classical research, conducted by contracted researchers, a system which Sadler (1999) characterises as an "unstoppable juggernaut" fuelled by the research careers of experts and the self perpetuating classical research cultures of universities.

Another critic of established research methods, in this case operational research methods, Ackoff (1979a, p. 94), highlighted how data generated from operational research methods could lead to limited interpretations of problems encountered in the field, and the potential dangers of this, "...practitioners decreasingly took problematic situations as they came, but increasingly sought, selected and distorted them so that favoured techniques could be applied to them."

The dangers of labelling situations so superficially as a basis for any development in teaching and learning theory or practice are self-evident, especially when considered in the light of Schon's description of how competent professionals respond to and interact with aspects of their practice for maximum effectiveness:

> Through complementary acts of naming and framing, the practitioner selects things for attention and organises them, guided by an appreciation of the situation that gives it coherence and sets a direction for action. So problem setting is an ontological process…a form of world making. (Schon, 1987 p. 4)

In cooperative education situations, students participate in the ontological or world making processes of organisations in ways that cannot be simulated in the lecture room.

Conclusions

The classical research tradition is not facilitating the development and dissemination of knowledge about cooperative education. A range of strategies that could be used to stimulate change is outlined below.

Educators today should be questioning many things about professional education in the market driven environment. Professional artistry, and not just that of teachers, is in danger of being subsumed beneath the mantle of intellectualisation, a mantle which sits all the more heavily because its pockets are lined with the classical research traditions which fuel the credential inflation spiral. Until it is widely recognised that teaching is a practical craft depending as much on the practitioner's wisdom, intuition and artistry (Schon, 1987) as on technical ability, the

immense value of cooperative education, as exemplified in the teaching practicum, will be underestimated.

In reality, teacher artistry depends on such a range of interactional factors that the best way to encourage it to flourish is to teach students to recognise the complexities and interactionality of all aspects of their environment, to know when a lesson is going well and when it is not going well, so that they can take action to alter the pace and flow of sessions, or to restructure the learning environment, always guided by the thermostat of pupil responses, *whatever these may be*. The teaching practicum is the only stage on which such artistry may be rehearsed and mastered, allowing as it does for the interaction of students and teachers in an authentic environment where doing and thinking, actions and intentions can be practised, discussed and analysed, so that the professional's tacit knowledge in action becomes more explicit.

In challenging tradition, teachers also need to develop their own tradition. Those who believe in the value of cooperative learning in work integrated situations need to seek ways to embed the practicum just as firmly into their professional education system, ensuring that practical experience comes to be seen as a rich and reflective experience which is essential to the growth of professional wisdom.

Teachers need a professional organisation that can network practitioners to develop a language and culture that reflects the reality of teaching and learning and a vocabulary that gives emphasis to these aspects of their craft. This in turn would make explicit, and thereby legitimate, the pedagogy of the practicum, which in the current environment, often falls prey to reductionist and technicist critique. This professional organisation needs a strong voice at national level which can ensure that concerns are heard, and important aspects of professional artistry given due weight.

Teachers are evaluative inquirers; they make judgements about the worth of their students' work, and report in idiographic ways, describing the particular. On the other hand, policy makers increasingly want assessment data to use for elucidatory purposes, to interpret in nomothetic (i.e., law making) ways, drawing conclusions about what is effective, explaining why some students and schools fail and some succeed. This being so, an uneasy tension exists between practitioners and the policy makers in the educational development arena. Top down initiatives, such as unit standards, which were 'box office hits' with politicians in the 'theatre of analysis' have foundered in the 'theatre of action' being too unwieldy to stage effectively. In the same way strategies for institutional change that fail to take into account the views of the constituent stake holders of an organisation, may well be doomed to failure before they leave the chief executive's desk. Practitioners are right to question initiatives that affect their professions and to insist that strategies for change are developed in consultation with them.

New Zealand teachers unfortunately do not have a professional body whose sole purpose is the promulgation of best practice throughout the profession. Teacher unions certainly have this as one of their purposes, but their multiplicity of purpose, for example, they are also teachers' contract bargaining agents, has led to their seduction into the technicist-reductionist camp, so that the complexity of professional artistry has been traded into a set of professional standards which reduces teachers' skills to a set of technical competencies via which they may be held accountable. Teacher educators must be wary of allowing the value of the practicum experience to be similarly reduced.

Implications

Glass (1972, p. 12) is adamant that only evaluative inquiry can further educational development because of the "enormous complexity of the system educational researchers seek to understand." He advocates that would-be researchers turn to the "creations of masterful teachers" to make more effective contributions in this arena.

Research methods which allow insights into the masterful creations of professional practitioners, are qualitative and as such are ones which challenge the science based tradition and focus on the interpretative rather than quantitative analysis of data. They rely on knowledge elicitation procedures, and on interpretative tools, to assist professionals to access their own knowledge in action and get beyond their espoused theories to their theories in action.

If the value of cooperative education in academic programmes is to be recognised, research needs to focus on identifying the multi-dimensional nature of the learning that occurs for students in the work place. Not just their learning about the technical skills of the project they are working on, but also their learning about how to implement those skills in variable contexts, which they must analyse according to a range of frames implicit in their theoretical grounding. When that is done, practitioners may be able to say with confidence that:

1. Professional artistry exists
2. Professional artistry is complex and context specific necessitating work based learning for its implementation
3. Unique and significant insights into practice, which cannot be gained in the lecture room, can be gained from studying practitioners in context.

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