

Learning about Learning through Teaching

Richard Taffe, Charles Sturt University, Australia

Jennifer Munday, Charles Sturt University, Australia

Abstract: This research reports on the second phase of an inquiry into student teachers' beliefs and practices with respect to teaching and learning in a community-based arts project. Student teachers' beliefs about how people learn, their approaches to teaching and their understandings about how others and themselves learn are examined. The research presents data drawn from an examination of students' teaching portfolios assembled following their delivery of teaching activities during a course project. Insights into students' understanding about young children, motivation and learning are offered as well as some thoughts on how teacher education programs might be better able to develop student teachers' pedagogical knowledge through such projects. Issues related to authentic tasks and learning outside the traditional classroom – for both teacher education students and children – will be discussed.

Keywords: Teacher Education, Learning and Teaching, Authentic Assessment

Introduction

JUST WHERE TEACHER education students source their beliefs about pedagogy and student learning and how these beliefs affect the construction of their pedagogical selves is a recurring theme in teacher education. It is a particularly important theme for teacher educators because as others (e.g., Calderhead & Robson, 1991; Pajares, 1992; Thomas & Pedersen, 2003) have noted, student teachers rely heavily on their prior experiences and pre-existing beliefs about teaching and learning as they construct their future identity and practice as teachers. In fact, as Pajares (1992) warned some time ago, the images of teacher, learner and pedagogical practice that student teachers hold at entry to their teacher preparation programs may not only be the foundation of their future practice as educators but such images are highly resistant to change.

The problem of challenging these images and encouraging student teachers to reflect upon and critically assess the validity of their prior beliefs and expectations about pedagogy is crucial for teacher education. Unless the fallacies and misconceptions that pre-service teachers may hold can be identified and examined, there is a real chance that such notions will remain unchallenged and may even be amplified in the student teacher's developing practice. If we are to avoid the obvious pedagogical shortcomings that will accrue where such misconceptions lead to inferior practice, then we must attempt to design learning experiences in the teacher education curriculum that offer pre-service teachers the possibility of developing their pedagogical skills in ways that encourage reflective learning practices. Moreover, given the oft-cited negative effects of traditional

classroom-based practicum experiences on the developing pre-service teacher identity and practice (Zeichner, 2002), there is a need to develop learning experiences for teacher education students that are innovative, diverse and outside the traditional school-based practicum model.

As teacher educators we are always trying to assign tasks that will be useful for student teachers. We want many things from assessment: we want to test understanding of discipline content; we want pre-service teachers to demonstrate confidence in working with young children; we want them to be able to engage and inspire young children; we want them to show they can adapt to a situation and modify content to suit learner's needs; we want them to demonstrate they understand theories of child development and have an understanding of best learning and teaching practice. Writing of essays and other academic assessment practices help assess some of these attributes but not all. Indeed, university learning is often criticised as being divorced from 'real life'. There have been moves to make education more meaningful (Cuttance & Stokes, 2001), or more 'authentic' with tasks having outcomes associated with higher-order cognitive development, affective development, and the enhancement of social competencies.

In university professional preparation courses there has been a growing interest in the use of authentic tasks as an alternative to traditional essay-style university-based assessment practices (Svinicki, 2004). Authentic tasks are learning experiences designed to offer students opportunities to grapple with 'real world' problems. Authentic tasks are not always located in the usual sites of professional practice (eg,



schools) but they do offer students the opportunity to develop their professional knowledge and practitioner competency through engagement with practical tasks requiring the demonstration of key practitioner attributes. Proponents of authentic tasks claim that they allow better opportunities for student learning and they also offer superior opportunities for assessment of learner knowledge and competency in vocational programs (Wiggins, 1998).

This paper describes how an innovative, non-traditional learning experience in the curriculum of two professional education courses was used to help pre-service teachers develop their practice working with young children. The approach described took student teachers out of the traditional university setting and placed them in a non-school environment where they were expected to plan, teach and evaluate learning experiences for young children. The use of an authentic teaching task in a non-traditional education setting was designed to encourage pre-service teachers to plan and teach without the cultural constraints of the traditional school classroom. The authentic task also provided pre-service teachers with a real teaching and learning experience where professional judgement concerning learner needs and appropriate practice would have significant implications for individual outcomes. Learning journals were also used as a means to encourage student teachers to reflect on their activities during the authentic task. It was hoped that the learning journals would offer an insight into the daily thoughts and feelings of student teachers as they prepared to meet the challenge of the authentic task.

The Research

We were interested in exploring the relationship between pre-service teachers' prior knowledge and beliefs about learning and their approach to authentic teaching tasks undertaken during their coursework in a teacher preparation program. In order to do this a small pilot study was planned and executed in 2004 using an existing authentic task project (Museum Project) which had been established earlier using local cultural heritage resources. The Museum Project began as a collaborative venture between the Albury Regional Museum, Albury Art Gallery, Charles Sturt University student educators and local schools in the Albury-Wodonga region. Originally the Project was introduced as the major assessment task for 3rd year BEd (Early Childhood) students enrolled in a core curriculum subject, 'Arts in the Primary School'. Now, however, the Project includes 1st year students in the new BEd (Middle Schooling) degree who also undertake this core subject. The Project has been sited in both the Regional Museum and the Art Gallery over the years.

At the time that the Project is run, the EC students have normally completed three Professional Experience placements. They have had considerable experience planning for, and working with, children 0-8. The Middle Schooling students, on the other hand, are only recent enrolments and therefore much less experienced. To help the Middle Schooling students overcome some of the learning disadvantages that might result from their lack of experience, they are teamed with EC students and mentored through the Project process. Working together in mixed discipline teams, the combined cohorts of student teachers plan a specially prepared education program so that children can be involved in different approaches to learning in the curriculum areas of Arts and Technology. The students are required to use the topics or themes found in the Museum and Gallery from the continuing and touring exhibitions as a basis for their plans for learning experiences for the children.

The intent of the pilot study was to attempt to identify and describe the basic beliefs about learning that students held at either entry to the teacher education program, or at the commencement of the 3rd year of the program. In order to achieve this, the researchers sought to interview a cross section of students from within the two separate degree cohorts. Invitations to participate in the research were distributed via email to all enrolled students in the subject that incorporated the Museum Project. At the end of the invitation process 15 students had agreed to participate – a near even split between Early Childhood and Middle Schooling students. The interview data and other sources from the pilot study provided an insight into the existing beliefs about learning that these students held at that time in their studies (Munday & Taffe, 2004a; 2004b).

In the second phase of the research we attempted to identify how participants' prior beliefs about teaching and learning were reflected in their actual practices during the Museum Project. We also sought to examine how participants reflected on their experiences in the Project and how this affected their growing sense of professional identity.

The First Phase of the Research

As indicated above, there have been two phases to this research project thus far. The first phase consisted of interviews with 3rd year Early Childhood and 1st year Middle Schooling students regarding their beliefs about their own ways of learning, and how they thought they would design learning activities for young children within an 'authentic' assessment task such as the Museum Project.

During the first interviews the student teachers were asked the following guiding questions:

- Please describe the activities you will be using during the Museum Project?
- Why have you decided on these activities?
- How do you learn best?
- Which types of activities help you learn? Which don't?

These questions were supplemented within the interviews by other questions to allow the participants to extend their responses about their individual views.

After transcription the audio-taped interviews were reviewed by both authors. The analysed data identified some commonly held positions on learning and the designing of learning experiences. Interestingly, there were also some contradictions in the participants' views on learning and what constitutes good teaching. For example, some participants claimed that learning for them (and by extension, children) was a 'hands-on' enactive process; that they learned best by 'observing and doing'. The participants' plans for learning experiences, however, did not necessarily reflect these ideas.

The main findings from the initial research were:

- Most participants had a personal preference for what they termed 'hands on', 'visual', and 'demonstration' styles of teaching;
- Some participants expressed difficulty in learning from approaches that relied on the verbal, for example, books, lectures, and the internet;
- Most thought verbal approaches were more taxing and less motivating, even though not all disliked them;
- Participants who believed they learned less from written/verbal approaches tended to demonstrate poorer literacy/verbal skills;
- Some participants felt very comfortable with written and verbal tasks providing certain supports were available to assist them in learning;
- In contrast to their own preferred learning styles, most participants said they *would* use verbal strategies in their work with young children – the very strategies they declared were least effective for learning;
- All participants agreed on the need to structure planned learning experiences so the learner was prepared for the content or subject matter of the learning experience through introducing children to examples, production techniques, terminology, or children's own prior experiences;
- The topic of learning needed to be personally interesting and presented in a way that encouraged discussion and personal engagement;
- When planning lessons, all the participants focussed their lessons on children's practical exploration of materials in relation to the children's

own interests and understanding of the Museum exhibition content.

So our initial findings in relation to pre-service teacher thinking about the proposed learning task at the Museum indicated that they were focussed on the practical requirements of conducting lessons, organising children in the Museum space, and making learning experiences accessible for the range of young children who would be participating in the Project.

The Second Phase of the Research

This phase of the study took place in the second half of 2004 and included comparing the plans for teaching and learning and the pre-service teacher's beliefs about children's learning with an appraisal of what the pre-service teachers actually did during the Museum Project.

During the Project, the researchers observed each participant who had agreed to be part of the study. These observations were designed to help the researchers examine more closely the links between participants' stated attitudes and beliefs about teaching and learning and their practice. Also, as a result of regular assessment in the subject, each student completing the 'Arts in the Primary School' subject was required to develop a portfolio of their participation in the project. Those belonging to the participants were reviewed in conjunction with the interview and observational data by the researchers to gain further insight into the planning and evaluation of learning experiences used by these pre-service teachers. Importantly, the portfolios provided an opportunity for the researchers to examine how participants reflected on and – occasionally – revised their teaching strategies during the week of the Project.

Participants were then interviewed again to discuss their rationale for activity selection, their views about teaching young children, and how the experience of the Museum Project informed their attitudes and beliefs about young children's learning. The researchers were also interested in participants' views concerning their developing sense of pedagogy and how this related to their own identity as learners.

What Pre-Service Teachers said about the Authentic Task

The interviews conducted with participants after the Project elicited a range of responses. The interviewers asked similar questions to those asked before (see above) but also sought to clarify the rationale behind the participants' planning and execution of learning tasks. This aspect of the interviews was particularly fruitful in allowing the researchers to gain some level

of access to pre-service teachers' rationalisation of the development of their teaching and learning program over the course of the Museum Project.

There were differences among participants in terms of their ability to articulate the rationale for the construction of activities they had designed, but overall the participants provided a good account of why they had chosen particular activities and why some of these had to be modified in order to achieve the planned aims. A key consideration for most of the participants was how to best interpret the museum theme that was operating at the time. This was a particular concern for many of the pre-service teachers because of the subject matter upon which their interpretive experiences were to be based. The

museum theme that the student teachers had to work upon involved Australia's experiences in World War II, specifically the experiences of prisoners of war in Asia. Understandably, the content and many of the images that children would find in the museum were potentially disturbing and at least for some potential school participants considered to be too sensitive for younger children. So one of the major themes that emerged from the interviews with student teachers was the concern over the content and then the additional concern over how that content was to be dealt with in the learning experiences for the young children who were to be participants in the project.



Another emerging theme was pre-service teachers' concerns about the organization and movement of children around the museum. Most of these comments could be classified as behaviour management concerns. Part of the problem seemed to arise from the student teachers' lack of familiarity with a particular age group. In some instances the concerns arose from issues surrounding the timetabling of organised activities in the museum. For example, one Middle Schooling interviewee said "I don't have any direct experience teaching children of this age, so I'm a little bit concerned about whether we've chosen the right kind of task for these kinds of kids..." There seemed to be few, if any, concerns about the usual

array of classroom discipline issues that typically dominate student thoughts prior to engagement with the traditional practice teaching block. In fact, the differences here were striking. While there was no clear evidence as to why student teachers were relatively unperturbed by standard behaviour problems, perhaps this arose in response to the differences student teachers may have perceived between traditional classrooms and the authentic, but non-traditional, learning site of the museum. That is, student teachers may have been more focussed on the task demands related to learning in the museum than their usual concerns over familiarising themselves with and enacting behaviour management and discipline plans

that are implicit in standard school-based practicum experience.

As in the original study, pre-service teachers appeared inclined to conceive of quality pedagogy as a defined set of educational behaviours that could be learnt and practised across different learning situations. As noted elsewhere (Munday & Taffe, 2004a), pre-service teachers held to rather naïve notions of pedagogy. Rather than thinking of the complexity of planning and executing learning experiences, pre-service teachers typically conceived of good educational practice as being indicated by the successful application of standard practice templates (eg, "...this will be a discovery-styled lesson", "...we're planning on doing a basic demonstration idea..."). One of the 3rd year participants in the first phase of the study, for example, spoke of the design of a 'generic lesson plan' that could be utilised with any kind of lesson. This student, like many others, in the first phase of the study clearly felt that pedagogy was really a framework for action, rather than being a complex professional practice.

In contrast, some participants, in their reflections on the entire Project, showed that their understanding and experience of teaching and designing learning tasks during the Project had significantly modified their views about pedagogy. Participants reported modifying lessons, altering their role and the children's role in the learning task, as well as whole-scale reworking of the conception and execution of learning tasks. Their rationale for such changes indicated that they viewed the act of teaching as a matter of professional practice, rather than imposing a set teaching framework on learners.

The pre-service teachers' portfolios offered an additional level of explanation to their experiences with the Museum Project. The portfolios provided pre-service teachers with further opportunities to reflect on and reconsider their experiences during the project. This was crucial for pre-service teachers' learning especially in terms of how they were able to relate educational theory and the experience of others to their own practice. It was at least an opportunity for pre-service teachers to be able to demonstrate how the practices and learning tasks that they had adopted for the Project were supported in the literature on young children's learning.

The participants in this study learnt that teaching - as in any other profession - requires practise, iteration, re-evaluation, and further practise. This cycle of action, evaluation, and new action is an ongoing process and, indeed, is fundamental to professional practice.

I think that practising the same lesson a few times helped us to predict how children were going to react and also gave us knowledge about children's capabilities [in] using the materials.

...the second day of the museum week ran a lot smoother, based on the changes we made as a group from our group discussions after our first day.

My decision to change my approach in the story building worked well. I felt much more comfortable in today's session and some great storylines emerged.

The lesson plan was not followed exactly but the children, I felt, were still able to learn and explore the main concepts we had planned for. The children would not have known that it was not running exactly to plan and this is important so that they can see that you are in control. The experience of working in a different setting was great and we were [challenged to] be very flexible...

Student teachers also provided evidence of their need to improve content knowledge of what they were expected to teach. Student teachers need not only good skills in how to teach, but they also need a sound foundation in the content of what they are about to teach (Ball & Cohen, 1999). As student teachers indicated in our study a good understanding of content was vital to their attempts to teach.

One thing that I found personally was that I needed to know more about what was in the museum. For example, one child asked me about a picture in the exhibition and I could only answer her after reading the caption under the picture.

Conclusions

Student teachers in this project revealed that their conceptions of teaching and learning were changing as part of being involved in an authentic teaching and learning activity. Their interviews and their learning journals indicate that they are developing more mature understandings about the complexity of pedagogy and there is evidence that they are beginning to appreciate the professional reality of being a teacher. As their learning journals show, student teachers are beginning to think of pedagogy as a reflective and iterative activity.

Some of the ideas that emerge from our study indicate that student teachers are transforming their views about teaching. We would argue that that transformation is assisted through their participation in non-traditional professional experiences such as the Museum Project. Some of the key ideas we saw emerging from our analysis of the student data revealed that student teachers believed that:

- Learning wasn't static: children's conceptions changed during lessons and between lessons

- Teaching needed to be adjusted to cope with differences in learners and also to respond to new understandings of the learning task.
- Pedagogy involved judgement, refinement, adjustment, modification and reflection.
- Pedagogy was not a defined set of instructional strategies that could be used across all content or learning situations.

We believe that there is an increased need for authentic tasks in teacher education. Authentic tasks such as the Museum Project discussed here offer pre-service teachers an opportunity to explore their developing practice as teachers without the constraints typically found in a school-based teaching practicum. For example, in this project the authors found that student teachers talked more about the elements of pedagogical practice and their developing sense of what learners could realistically interpret and achieve than was the case when the pre-service teachers participated in debriefings of their experiences in traditional practice teaching blocks. This may be because student teachers engaged in the Museum Project were focussed more on the needs of learners and the construction of interpretive activities for learners and less focussed on their personal conformity to pre-existing structures in schools, for example,

timetables, discipline codes and school community politics.

When involved in projects like the Museum Project, student teachers become engaged in a number of tacit skills that cannot always be formally taught in the classroom. Some of these are: planning time and energy; carrying through an agreed responsibility; negotiating and communicating with people in power; resolving conflict; coping with stress and tension; assessing strengths and weaknesses; adapting intuitively to situations and needs. Peter Botsman (2002) refers to all these as bringing the substance of University learning into the 'play of life'.

As others have noted (eg, Ball, 2000; Clark, 2005; Maloch et al., 2003; Thomas & Pedersen, 2003) there is a need to revise current approaches to teacher education built on traditional campus-based teaching models. There needs to be more opportunities for student teachers to explore the learning of children, and to explore their own beliefs about teaching and learning. These opportunities may be found as much outside the traditional school-based 'training-grounds' of schools as within them. Finally, using authentic tasks can promote stronger links with industry and community resources, like the Museum in this project, which may serve as sites for professional learning for pre-service teachers.

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About the Authors

Dr Richard Taffe

Richard has an extensive background in education, particularly in primary school teaching. He completed initial teacher training in NSW in 1981 and commenced teaching in 1982 in metropolitan Sydney. Over the following 10 years, Richard worked in a variety of schools in Sydney including 12 months working for NSW Youth and Community Services in disability services. In 1993, he joined the NSW Department of School Education's Selective High Schools Unit and in 1995 commenced working with Charles Sturt University. In 2002, Richard gained a PhD from the University of Sydney for his research on young aggressive-rejected children. He is currently the Course Coordinator for the Bachelor of Education (Early Childhood) on the Murray Campus, Albury.

Ms Jennifer Munday

Jenni has worked in the Faculty of Education of CSU for 17 years, half of this time was on the Wagga Wagga campus, the other half at Albury-Wodonga. In 1994/1995 she formed part of the team who planned and forged the implementation of the Murray Education Unit, and set the vision that has formed the highly regarded Bachelor of Education (Early Childhood) Degree Course. She has produced a considerable volume of work including creative work in the Visual and Performing Arts, seminars and workshops for other performing artists and teachers of the arts, as well as conference papers and presentations in both Arts and Education. She recently received two Teaching Excellence awards, one from within Charles Sturt University, and one from the wider education community — in 2002 she was a member of a three-person team that received the CSU Faculty of Education Excellence in Teaching Award for team teaching, and in 2003 received an award for Teaching Excellence in Technology from the Australian Council of Educational Leaders.

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