Title: Meaning making through the practices of connectedness: An initiative to address retention and foster a learning community

Dr Karen Noble (University of Southern Queensland)

Ms Leisa Holzheimer (University of Southern Queensland)

Keywords: student retention, community of practice, connected curriculum, problem-based learning

Abstract

Entry into university has traditionally been associated with special expectations and excitement, as well as varying degrees of tension and anxiety. In terms of developing as early childhood professionals, possessing the skills, knowledge and ability to work effectively with children and their families has never been easy. Smooth and successful transition to university requires attention to several related elements, including student readiness, social support systems and involvement in a program of strengths-based learning contexts. Our study aims at a re-conceptualisation of pedagogical support for students coping with 'transitions' in an undergraduate early childhood program. In the development of the connected curriculum a problem based learning (PBL) approach has been employed. The principal idea behind PBL is that learning should be based on carefully designed problems that demands that the student develops critical knowledge, problem solving proficiency, self-directed learning strategies, and team participation skills (Barrows & Tamblyn, 1980; Woods, 1994). Indeed, since first introduced by Barrows and Tamblyn during the 1980's, PBL has been used in a range of discipline areas to support pre-service students in the acquisition of skills and content knowledge relevant to their disciplines. This paper explores the perceptions early childhood and primary pre-service teachers held regarding their participation in a unit of study structured around the use of PBL. The paper examines the frustrations pre-service teachers experienced within the PBL as well as the perceived benefits regarding their participation in the connected curriculum in their first year of study.

Introduction

This research project has been developed to investigate the effects of a teaching and learning innovation in the Bachelor of Early Childhood Education, reconceptualising the

way in which the curriculum is developed and implemented across the program. Utilising a problem-based learning (PBL)approach to the development of a connected curriculum is responding to the need to: enhance student retention; provide a more student-centred focus; encourage a flexible approach to teaching and learning; initiate and lead enterprise within the early childhood field; develop within students the ability to analyse and critically evaluate theory and practice across the curriculum; and utilise many aspects of generic skill development in students, including problem-solving, working effectively as a member of a team, reflection, evaluation, assessment and participation in decision-making processes.

Today all graduates are required to be self directed learners and possess lifelong learning skills, regardless of their chosen profession. As such, they need engage as critical thinkers and reflectors who are analytical in their approach to solving problems regardless of their chosen field. Specifically, this study is concerned with the complex and interdisciplinary nature of work with young children and their families. More than ever before, beginning early childhood teachers need to be able to integrate knowledge and skills from a number of disciplines as well as have the interpersonal skills to be effective team members. It is the belief of the researchers that teacher preparation courses that are narrowly focused are unable to adequately support the training and ongoing professional development necessary to produce early childhood teachers who are well-prepared for their work with young children.

Furthermore, across the higher education sector, academics are confronted by economic rationalism with the demand that costs be cut and numbers being taught increased (Ramsden, 1992). Traditionally, technical-rational models have also guided much curriculum development and delivery in higher education and, in recent times, such approaches have been increasing scrutinised in terms of their inability to adequately prepare beginning teachers for the challenging social contexts in which their work is to be undertaken. Specifically, such approaches are seen to be deficit in terms of not enabling students to transverse the theory/practice nexus. Rather, as Korthagen (2001) in Edwards & Hammer (2006) argues, a more effective approach to teacher education is required to enable

beginning teachers with opportunities to construct understandings of practice which draw on relevant theory to inform understandings of the teaching and learning process. It is the complexity of the issue that have been raised that requires us to review the appropriateness and value of various teaching practices and to develop a curriculum approach that is better situated to meet these competing demands of academics, students and higher education institutions in general.

Problem Based Learning Approach

Problem-based learning (PBL) is one such teaching approach that is changing the way many higher-education teaching faculties are approaching the teaching of both undergraduate and post-graduate courses (Barrows & Tamblyn, 1980; Boud & Feletti, 1997; Duch, 2001; Evensen & Hmelo, 2000; Savin-Baden & Major, 2004). While this approach was first used in the teaching of medical students in North America during the 1960s and 70s, it has now evolved into a general teaching ideology or framework (Savin-Baden & Major, 2004) used in many different fields or disciplines. It is a learning approach that draws on established principles of pedagogical effectiveness, including student engagement, active learning, social interaction and learner relevance.

The main tenets of PBL are to encourage self-directed learning in students, leading to higher motivation, better retention of material, and the development of important reasoning and problem-solving skills, and for students to develop a better understanding group processes and skills necessary for successful working collaborations. This approach to course development and implementation has been considered an important means of exposing beginning teachers to situations they are likely to face in their professional lives. By employing constructivist and social constructivist learning theory (Ahlfeldt, Mehta & Sellnow, 2005; Dean, 1999) the PBL approach supports students to acquire theoretical concepts related to practice, as well as the development of strong interpersonal skills associated with working in professional contexts (Kolb, 1984; Facione, Facione & Gainen, 1995; Murray-Harvey & Slee, 2000), encouraging a deep approach to learning (Marton & Saljo, 1984).

Our Approach

The PBL activities within the Connected Curriculum framework are designed to develop the generic skills and attributes of a lifelong learner, along with the appropriate discipline specific knowledge needed to work across the early childhood education sector. Indeed, generic skills and attributes are now widely accepted and acknowledged as important outcomes from a university education and are being written into virtually all curriculum documents (Hughes, 1997; Kenway, 1997). Some of the generic skills and attributes developed and assessed by PBL in this connected curriculum are:

- problem solving
- critical thinking
- metacognition
- ethics
- communication
- information literacy
- lifelong learning

Within this connected curriculum framework, problems serve as the context and the stimulus for learning. The content of the curriculum then is to be organised around these problems, not around disciplines or individual course materials. Students will work in small, collaborative groups, and take responsibility for there own learning. The problems are to be presented in a variety of formats including video footage, written and verbal scenarios as well as a range of other stimulus materials and artifacts that enable the facilitator to establish the context for learning. By intrinsically engaging students in the subject matter and by encouraging self-directed, progressive and active learning to resolve the problem, effective learning habits and professional engagement are promoted. Clearly, the purpose of the problem is to pose a practical dilemma that provides the opportunity to explore both theory and practice. Therefore, the design and selection of the problems is crucial to the success of this connected curriculum initiative. The problems must challenge the students to go beyond the known, and encourage the students to engage within their zone of proximal development (Vygotsky, 1987).

The main focus of this project is to model a process that brings together elements of the core curriculum for undergraduate early childhood teachers to develop the skills, knowledge and abilities that are required for their work with young children and their families in changing social contexts. In terms of achieving essential graduate attributes and connections across key learning areas in their pre-service preparation, a connected curriculum approach that has been conceptualised within a problem-based learning approach was developed to:

- Link the student's learning across the semester in all core courses to facilitate transfer of knowledge;
- To enable students to experience authentic learning by being presented with real-life scenarios;
- Promote greater student empowerment, autonomy and control of their own learning;
- Focus on developing graduate skills and attributes that are necessary for self development and employability as early childhood educators.

As such, this project serves as an 'institutional model of excellence' in addressing:
- Student retention
- Research-based learning
- Work integrated learning
- Graduate outcomes

The regional university in which this connected curriculum initiative is being implemented offers early childhood teacher education on-campus mode across three geographically disparate campuses, as well as through an external study mode with both domestic and international students. In the past, blended teaching approaches have been employed to meet both student need and financial and human resource parameters, with each cohort identified by way of separate course offerings. Each course and in many cases, offerings of a course, has operated independently of the others. A full student

workload is understood to be four core courses of study, including practical teaching opportunities.

Within this reconceptualised, connected curriculum, students will be able to participate in intensive face-to-face periods scheduled at the commencement and in the middle of the semester. These sessions are to be video-recorded and made available to external students, along with the relevant written problems and materials. Throughout the semester, all students (regardless of their enrolment or offer) will be engaged in regular professional conversations, in person and/or virtually. As well as the technological provision of WebCT support, a specifically designed early childhood WIKI is integral to delivery of this connected curriculum where students are one 'connected' cohort. This tool then becomes the virtual vehicle that assists to drive student and academic involvement in the social dynamic associated with the 'community of practice' approach to ongoing exploration, investigation and learning (Lave & Wenger, 1992; Wenger, 1998). For this aspect of the connected curriculum to be beneficial to all stakeholders, it "crucially involves participation as a way of learning—of both absorbing and being absorbed in—the "culture of practice. An extended period of legitimate peripherality provides learners with opportunities to make the culture of practice theirs" (Lave and Wenger, 1992, p. 95). The following model, adapted from previous work in looking at language learning contexts for young children (Noble, Macfarlane & Cartmel, 2005) is a useful way of representing the way in which the student, as active learner, is privileged and therefore, creating a space for agency to occur across the early childhood curriculum in this university undergraduate program.

Through the process of PBL and the privileging of critical reflection in-action and on-action, the connected curriculum is a space whereby all participants experiment, try out ideas, take risks, tackle and puzzle over problems, think, reflect, listen, discuss, ask questions, look up information, surprise themselves and each other. Such processes are supported by poststructural thinking as it promotes the notion of being informed by multiple perspectives in theory and in practice. Thus, reflective practice can be

understood and improved by the use of a four-step model that includes the following stages – deconstruct, confront, theorise, think otherwise:

Table 1: Process of Critical Reflection (from Noble, Macfarlane & Cartmel, 2005)

To deconstruct work with young children, to pull apart the main tenets of theory that govern particular practices and closely examine its make up, especially practices that have been enshrined as 'normal' and 'proper' practice

To confront educational issues translates as approaching the issues head on by examining difficult, previously thought of as 'untouchable' topics

To theorise is to carefully consider teaching practice at all levels and question what is and what could be by thinking broadly and by using a range of non-dominant discourses from which to draw

To think otherwise is to challenge oneself to think outside the dominant discourses framework and come up with other ways, or better ways of thinking about and practising teaching (teaching and learning)

This PBL approach employs this process of critical reflection within the context of the connected curriculum to bring about a sense of agency for the learner. As such, the contextual elements that are of significance are:

◩ Interactions and relationships: All participants (facilitators and learners) have the responsibility to find out what they know and what they are capable of. Therefore, within this learning context, effective communication processes must be established, where it is acknowledged that all stakeholders have equal rights.

◻ Rights and responsibilities: What the learner chooses to do in order to explore a particular issue is perfectly appropriate. There is no assumption that the learning outcomes be investigated in a prescriptive way. Neither should the learner be
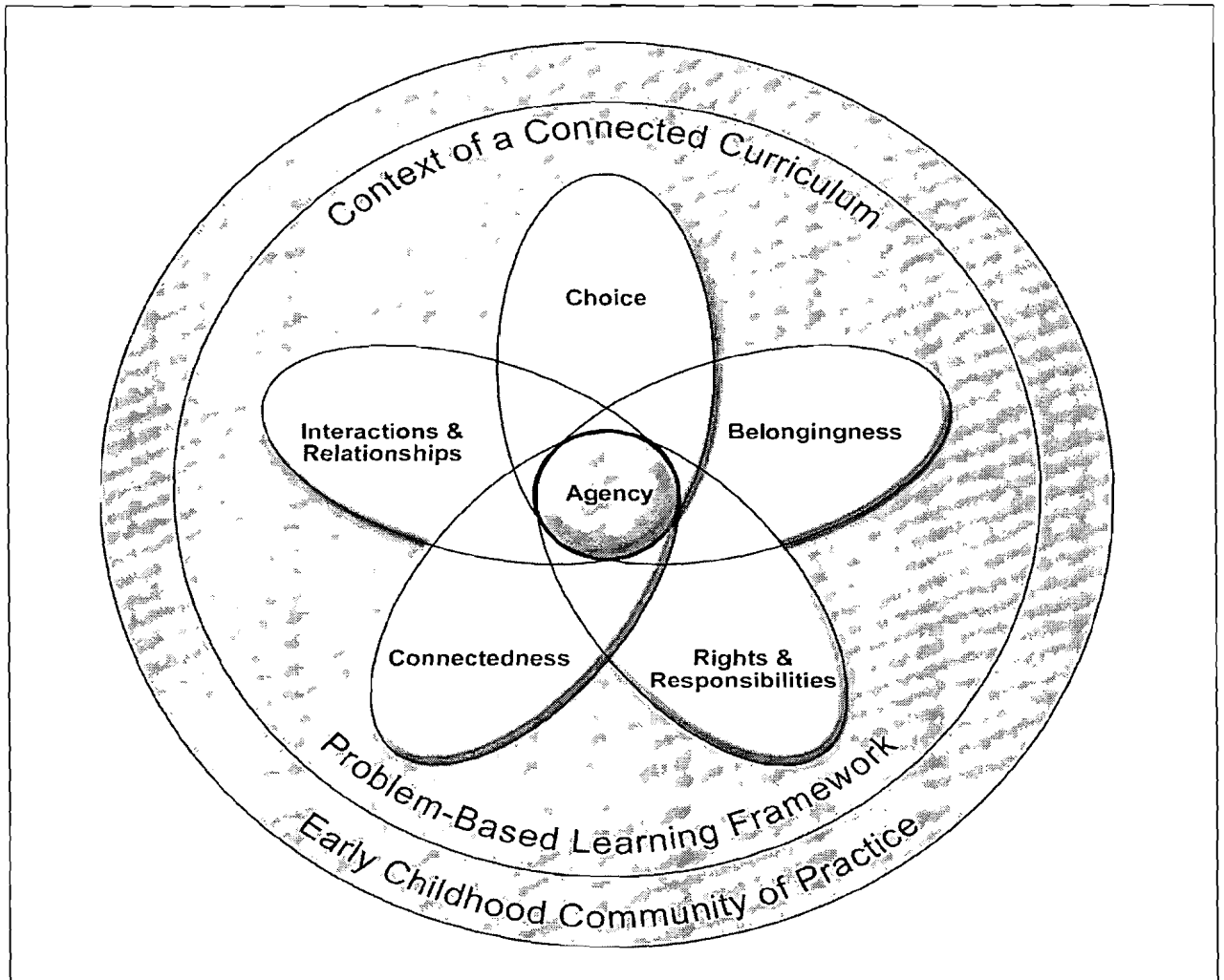
stressed by the processes of critical reflection. Therefore, the learner should have the right to explore experiences and knowledge as he/she so chooses. An expectation that each learner is entitled to express his/her reactions to the learning tasks, but has a concomitant obligation to do so in an appropriate way. Therefore, rights are understood to be reciprocal.

- Choice: Within the connected curriculum context, the individual learner has the right to disagree with his/her peers in terms of how to engage with particular learning experiences, but that there is equally an expectation that the other learners have the right to disagree and make choices in the same way. However, these choices are framed in terms of their being a joint responsibility to develop a greater awareness and understanding of how each person can work together to achieve the fullest potential of any given situation.

- Belongingness: This tenet highlights the need for the individual learner to feel safe and secure in their choice to engage with the learning outcomes in whatever way he/she chooses. It is imperative that the participants develop a sense of belonging to the social learning context and that they understand their own subjectivity in terms of their learning dispositions. Belongingness then attends to the notion of habitus (Bourdieu, 1984).

- Connectedness: Implicit in this approach is the fundamental need for learners to have interactions and relationships with others so as to form a network that supports their ongoing learning and development of professional identity. In this way, a sense of connectedness needs to exist for supportive networks to develop and for experiences to be meaningful. We aim to develop new kinds of bonds to become possible through the linking of the face-to-face and real-time virtual community of practice.

Together, the application of these contextual elements impacts upon the quality of interactions, relationships and friendships that actually occur for the participants in the

learning process. Agency cannot exist within relationships and practice unless there is a balancing of power relations and the presence of all characteristics (outlined in Figure 1). We argue then that the necessary professional skills and knowledge needed to work effectively with children and their families are central to the aims of this curriculum reconceptualisation. New measures are called for in addressing the complexities of changed work/life demands and social contexts of higher education as traditional approaches to pre-service teacher education are proving ineffective and inefficient. Additionally, the contexts of practising teachers demand new kind of competencies and that is the strength of PBL through a connected curriculum, as it integrates many elements regarded essential in effective high quality learning and practice, such as self-directed, autonomous learning, critical and reflective thinking skills, and the integration of discipline specific knowledge and skills.

Figure 1: Context of a Connected Curriculum within a Community of Practice

Context of a Connected Curriculum

Choice

Interactions & Relationships

Belongingness

Agency

Connectedness

Rights & Responsibilities

Problem-Based Learning Framework
Early Childhood Community of Practice

Adapted from Noble, K., Macfarlane, K., & Cartmel, J. (2005). Playgrounds of language: The role of agency in the development of literacy. Paper presented at *Australian Association for Research in Education Conference*, Parramatta, November 27 – December 1.

Pedagogical assumptions and understandings

While much of the literature reports on the use of PBL in the development and implementation of individual courses of study in the higher education context, this study explores the use of PBL in a connected curriculum context in which undergraduate early

childhood education students are participating in a holistic program that sees the integrated delivery of their four core courses of study over a semester integrated within a community of practice (COP). Such an approach is endeavouring to ensure that teaching and learning is both relevant and applied in nature, whereby understanding and connectedness to practice are privileged over more instrumental approaches. Coupled with this is the need for higher education educators to continually experiment with teaching approaches that challenge traditional didactic methods of preparing teachers for the complexity of their professional lives (Boud, 1989; Entwistle & Ramsden, 1983; Margetson, 1995). The aim of this investigation then is to examine stakeholder perceptions of their participation in the PBL Connected Curriculum project as a viable concept.

Acquiring sophisticated knowledge and developing a practice that is different from what teachers themselves experienced as students requires learning opportunities for teachers that are more powerful than simply reading and talking about new pedagogical ideas (Darling-Hammond, 2000). Teachers learn through engagement in processes of critical reflection in-action and on-action (Noble, et al, 2006) and this is best achieved by looking closely at their work and sharing what they see. In order for all stakeholders to develop useful cognitive maps of the various theories, ideas and concepts and their interrelatedness, it is necessary to see how ideas connect across the different core curriculum areas. This kind of understanding provides a foundation for pedagogical content knowledge (Shulman 1987).

Research design

Evaluating this connected curriculum approach that is framed by PBL presents a challenge – is it possible to isolate the impact of this approach? Cervero (1988) provided a useful framework for the evaluation of continuing education for professionals (see Table 1), initially used in the health discipline, but equally applicable to the scope of this project.

Table1

Framework for the evaluation of continuing professional education
- Programme design and implementation   - Learner participation   - Learner satisfaction   - Learner knowledge, skills and attitudes   - Application of learning after the programme   - Impact of application of learning

Adapted from (Cervero 1988)

This framework is used as a set of organizing principles for the consideration and selection of appropriate data collection methods for this study. In line with this model, throughout the semester, students are asked to evaluate their learning in a feedback situation that elicits comparisons between learning modes. Mid and end-of-semester anonymous questionnaires are available to all participants. The academic staffs' own regular observations and interactions with the teaching team have been audio-recorded and then later transcribed. All participants will be invited to participate in focus groups to further investigate the initial findings from the data, so as to gain deeper understandings of the impacts of a PBL connected curriculum approach. The video-taped intensive sessions may be a useful artifact in stimulating and illustrating professional conversation.

In relation to teaching and learning, there are a number of issues to be explored throughout this study, including:

- Effectiveness of PBL in the context of this connected curriculum approach;
- Establishment that what was planned was actually delivered;
- establishment of the differences in the teaching and learning across the traditional isolated course delivery model and the reconceptualised connected curriculum approach;
- Establishment of the quality of learner participation, engagement and satisfaction;

- Assessment of the teachers' satisfaction (or otherwise) with the connected curriculum and to identify any problems that were experienced in the delivery of the curriculum.

The remainder of this paper presents the findings from responses by staff and students following the initial intensive period that was a part of the PBL Connected Curriculum. These initial findings present interesting pedagogical responses by both students and staff, providing impetus for future iterations of this approach to curriculum design and delivery.

Findings

All students were asked to complete a questionnaire at the end of the first intensive teaching period. In addition all students were invited to participate in semi-structured interviews. Staff members also participated in a professional conversation to explore their perceptions also were also interviewed regarding their perceptions of the process. The major themes from these conversations have been gleaned from the transcripts to illustrate the richness of the learning journey, not only for the students, but also for the staff themselves.

Staff travels

In the staff professional conversation, the use of metaphor was a vehicle by which explanations of personal experience were given.

A rich tapestry was used to describe the process that has developed to explain the ways in which the engagement with others had impacted upon their perceptions of teaching and learning:

Each of us is like a different coloured thread and now, by using all of the threads well we have been able to create an incredibly rich tapestry – we have created a wonderful picture that we all share in.

Another member of the group described it in terms of an improved physical stance:

Through my involvement with this team of academics in such a rich teaching and learning context, I have experienced what it is like to be a giant. I have actually stood on the shoulders you two giants and I think that you have both done a remarkable job in ensuring that we saw all that there was to offer on the horizon through such support. I feel privileged to have been given this opportunity. I feel that I will always walk taller as an educator because of this experience.

A train journey was another description used. This academic talked about being a reluctant passenger at first, eager to try something different, but fully knowing that she did not realize the potential of where it might end up:

The train that Karen was driving at first was even a bit scary for me (Leisa: co-author) – the pace that it was traveling. I felt that while I believed in all that she was saying in terms of being able to improve the student learning journey and to be able to create more critical thinkers and critically reflective practitioners, I also knew that it was risky in terms of challenging the traditions in terms of delivery and design and also challenging in terms of finding others to get on board the train. I decided though that I would get on the train and see where it led to. Karen put it out there to all staff at first too, so really, the staff that then decided to work with us on this really self selected – they remained committed while others chose to select out. We all had the choice I guess..

Building upon this comment, another added the importance of having someone to share the journey with:

In the beginning, we were all offered free tickets, just come along and see if you feel comfortable and then you can decide if you want to continue on the journey or if you wish to get off at the next stop. In the beginning, the drivers (full-time academics) just let us go along for the ride, giving us the time and the space to become comfortable in our

seats. From the beginning, they encouraged us to get to know them and also to get to know one another and I think that the serendipitous relationships that developed as a consequence, really made each of us feel valued. We developed a trust in one another and we were then able to overcome our own insecurities as well as to help others to achieve the same thing. I learnt that each one of us on the train actually was on that train for a particular reason, that each one of us, in our own way, value –added to the journey of others, staff and students and this was amazing. Still when I think about it now I get goosebumps. It is the most exciting journey that I have ever been on. I am still not sure that I know what the destination is, but I am now completely okay with that.

Moving away from the metaphors that staff used to describe their journey thus far, there were many other aspects that they offered in relation to their perceptions of the distance traveled over the eight weeks from the beginning of the PBL Connected Curriculum initiative.

At the outset the task seemed huge and I just went along with it. From the discussions that we had beforehand, I had enough trust in Karen and Leisa to know that they somehow would make a way to see this work. I developed a trust that she (first author) would support me no matter what and that with the help and support of others I felt that I would gain skills and knowledge over time.

It has been an important means of learning for staff, as well as for students. What is highlighted is that staff not only learned new knowledge and terminology, etc from being a part of the group, but that they felt challenged in the ways in which pedagogy was enacted.

I always hated the isolation that you felt as a casual, not like you actually ever really belonged, but now, Karen doesn't treat us any differently to other staff, it makes me feel really valued. I am recognized for my strengths and I have been able to teach others and also be taught by others. I have felt empowered personally and professionally. The way in which we have worked, with the negotiated curriculum approach I believe has given us

a superior product. There has come a real sense of freedom from the trust that Karen and Leisa have placed in us all. Over time, I think we came to the realization that we were going to get there and even surpass where we thought we might end up. It was great to find like minded people and a real sense of reciprocity ensued. Like the students we have been encouraged to look at what we do know and at the same time to recognize what it is that we wish to know more about and I have felt safe to articulate my weakenesses as well in this context, knowing that by doing so, Karen and Leisa would help me to grow and develop.

● What was also clearly articulated in the professional conversation, was that the challenges were actually something to embrace and something that could actually be useful in strengthening the pedagogy.

Resistance is okay. However hard this might seem, there was a belief that it would all be good, that the struggles would lead to good things: for us, for our students and for the children that our students would teach. We started with nothing this time and look where we have ended up, the synergies that we now have – each of us on our own is one, but together we are so much more ... one + one = one+. It is a sense that united we stand and together we ensure that we walk and we talk best practice to students, we are exemplifying the model that we want the students to see as important.

● *Student journey*

Within the student semi-structured interviews, it was apparent that, for many of them, their journey to this point had not been unlike that of the academic staff in the fact that, although they had had sessions that explained the initiative and the way in which the curriculum and the delivery was going to change in their second semester of study, they also felt that nothing had really prepared them for what they were going to be doing.

The feelings of insecurities by students initially were recognized and in a sense, embraced within the process, as staff valued student responses, positive and negative, and used those personal reactions as a vehicle for learning for others.

I remember on that first day of intensive, going home and bawling and saying to my family that there was nothing surer than I was going to fail. I could see no way that this was going to work for me, that at the end of all of this, that I was going to have learned what I needed to. It was very daunting and really overwhelming, but I made myself come back again on the second day and it was much better. I started to see how things were going to work a little bit better and I started to just go with it and just see how it went for a while.

A period of adjustment was recognized as important in the process of embracing this approach to learning.

It took me to a different place to where I had ever been before. It took a different mind set to make the shift and now that I am there, I don't ever want to go back to that. I know now how everything is connected and everything has more meaning this way. I can see now how everything that I am doing is relevant to me becoming a great teacher. I love what I am doing now, but it did take some time to get to there.

Students recognized the integrated support systems that had been established to facilitate their adjustment to the new process and to enhance their learning journey.

What has made the difference to me is the support systems – from the staff who are teaching us, to the learning and support people to student services, to the library and

CAFU and everyone else that Karen and Leisa have brought in to work with us. You just don't realize how it can all come together. Also, to see them all working so closely together and them all giving us the same messages over and over again in different ways, it really helps you to connect everything up.

Right from the intensive, students felt able to articulate their concerns, not only in relation to the content, but also in terms of how they were learning and how they might better engage with the pedagogical processes that were developing.

The thing that has kept me going has been the fact that always the staff are there for us and that no matter what the problem is, one of them will be able to help us to find ways of finding solutions. They really care about us and about our learning and like they keep saying to us – it is all about us – so that we can be the best teachers we possibly can. Everything that Karen does with us, makes you think, okay, not just what I learned, but how she facilitated it, how I learned. Now I know that I am more focused on this all the time too – for me and for others and I think that this will help me to better understand how I can help children to learn.

There was an expression of the importance of a sense of autonomy as a learner.

The uni lecturers don't just talk the talk this semester, but they are walking the walk as well. They show us how it can be and have made me realize that I need to make sure that I do get to learn what I need, not just what others might think is important. I have realized that I need to connect my own dots and now I can see how everything else that I have experienced in life helps this and now everything else that I learn I will keep adding to what I have learned about how to learn this semester. I realize it is about personal power or as Karen says about the 'daisy' model, it is about making sure that I have agency. I now value myself, I have rights too and I also have a responsibility to myself to get the most that I can from uni so that I can be a good teacher.

Like in the staff conversation, the students also at times used metaphor to describe the journey that they had taken, both personally and professionally, throughout the semester.

Some students used the rollercoaster as a way of describing the personal feelings that they had experienced over time and how, even though they were scarred at times, they continue with the ride and even wished to go back for more. They discussed the fact that the more times they rode the rollercoaster the better they got to know where the 'scary bits' were and so they could prepare themselves. Other students used 'boxes' to describe learning. Previously they had created boxes for their learning, where they treated each subject as discrete from the other. This PBL Connected Curriculum has made them aware of the fact that their learning actually doesn't fit into separate boxes but that they need to bring it all together to form the picture of what it means to them to 'be a teacher'.

Discussion

What is apparent from this exploration of some of the pertinent themes that developed throughout the staff and the student conversations regarding their involvement in the PBL Connected Curriculum initiative, is that all participants have gained a deeper understanding of themselves as learners and that, through engagement in this pedagogical process, they have become more proactive within the tertiary teaching and learning context. What has been important throughout this process has been the process of critical reflection, both in-action and on-action. Both students and staff have been able to recognize that teaching and learning can both be transformative and productive in nature. Such a notion supposes the importance of multiple perspectives to inform teaching and learning, rather than a focus on grand narrative approaches, which are more likely to constrain rather than enable the theory/practice nexus.

The PBL connected Curriculum has provided a platform from which academic staff and students can co-construct and examine their knowledge, skills, abilities, beliefs, values and practices in relation to their multiple contexts both now and in the future. In Foucault's terms, there has been a focus on how teaching and learning has "played out in the real" (Foucault, 1981, p.13) and the concomitant effects that this has on the student learning journey towards identifying as 'teacher'. By engaging students and staff in such approaches in the tertiary context, they have been afforded an opportunity to 'think

otherwise' about orthodox methods of teacher preparation. The authors argue that such a process is able to minimize the possibility of 'taken-for-granted' or more traditional approaches to curriculum design and delivery to delimit how participants conceptualize their professional development. Thus, it is this ability to 'think otherwise' that enhances both staff and students to understand the importance of new epistemologies that can inform the processes of teaching and learning.

References

Ahlfeldt, S., Mehta, S., & Sellnow, T. (2005). *Measurement and engagement in university classes where varying levels of PBL methods of instruction are in use.* *Higher Education Research and Development*, 24(1), 5 – 20

Barrows, H.S., and Tamblyn, R.N. (1980).*Problem-Based Learning: An Approach to Medical Education* . New York: Springer.

Boud D. & Felletti G. (1997). The Challenge of Problem-based Learning. London. Kogan Page. p 254-259.

Boud D. (1989) Some competing traditions in experiential learning. In:S.Weil and I. Gill (eds.) *Making Sense of Experiential Learning.* SRHE/OUP: Buckingham, p.38-49.

Bourdieu,P (1984) *Distinction: A Social Critique of the Judgement of Taste.* London: Routledge.

Cervero RM (1988) *Effective continuing education for professionals.* San Francisco: Jossey-Bass.

Darling-Hammond, L. (1997). *Doing What Matters Most: Investing in Quality Teaching.* New York: The National Commission on Teaching and America's Future.

Dean, C. (1999) Problem Based Learning in Teacher Education, paper presented at the *American Education Research Association Annual Meeting*, Montreal, 19 – 23 April

Duch, B.J. (1996). Problems: A key factor in PBL.*About Teach. 50(Spring)*,7 –8.

Edwards, S. & Hammer, M. (2006). Laura's story: using problem based learning in early childhood and primary teacher education. *Teaching and Teacher Education, 22,* 465-477

Entwistle, N. & Ramsden, P. (1983) *Understanding student learning.* London: Croom Helm.

Evensen, D. H., & Hmelo, C. E. (2000). *Problem-based learning: A research perspective on learning interactions.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Facione PA, Giancarlo CA, Facione NC, Gainen J (1995) The disposition toward critical thinking. *Journal of General Education* 44(1).

Hughes, A. S. (1997). Toward a more thoughtful professional education for social studies teachers: can problem-based learning contribute? *Theory and Research in Social Education,* 25(4), pp. 431-445.

Kenway, J. (1997). Change of address?: Educating economics in vocational education and training. Paper presented at the *Reconstruction, Development and the National Qualifications Framework*, South Africa.

Kolb, D. (1984) *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs. Prentice Hall Inc.

Margetson. D. (1995). The role of evaluation. In Alavi C (ed.) *Problem-based Learning in a Health Sciences Curriculum.* London. Routledge. pp141-161.

Marks-Maran, D. & Gail-Thomas, B. (2000). Assessment and evaluation in problem based learning. In Glen S & Wilkie K (eds.) *Problem-based learning in Nursing: A new model for a new context.* MacMillan Press. Basingstoke. pp127-150.

Marton F, & Saljo R (1984) Approaches to learning. In (Eds.) Martin, F., Hounsell, D. and Entwistle, N. *The experience of learning*. Edinburgh. Scottish Academic Press.

Murray-Harvey, R., & Slee, P. (2000) Problem Based Learning in teacher education: Just the beginning!, paper presented at *Annual Conference of the Australian Association for Research in Education*, Sydney, 4 - 6 December.

Noble, K., Macfarlane, K. & Cartmel, J. (2005). Playgrounds of language: The role of agency in the development of literacy. Paper presented at the *Australian Association for Research in Education*, University of Western Sydney, Parramatta, Australia, 27 November – 1 December.

Ramsden P (1992) *Learning to teach in Higher Education*. London. Routledge.

Savin-Baden, M. (2001) *Problem Based Learning in Higher Education: Untold stories.* (Buckingham, Open University Press

Vygotsky, L.S. (1987) The collected works of L.S. Vygotsky: Vol.1, *Problems of general psychology. Including the volume Thinking and speech*. New York: Plenum.