

Competency = Complexity and Connectedness.

Professional portfolios as a technology for reflective practice in pre-service teacher education

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1 Introduction

One of the challenges we see facing teacher education at the present time, is our need to respond to the tension in our pre-service education programs between development of individuals as professionals and the demands of a professional program that must ensure ‘technical competency’. This study into teacher professional portfolios arose from our efforts to address this challenge. Professional requirements set out by the government, the teaching profession and the university include a wide range of knowledge and skills in planning, implementation and evaluation of teaching activities. They also include qualifications in specific areas such as special education, child protection and information technology; skills to work with colleagues, parents and others in the school community; and capacities to engage in leadership, professional development and life-long learning. Further, the role of educators in society has been expanding so that teachers now need capacities to work in increasingly diverse and ever-changing social, cultural, technical, and economic environments. It was within this context that in 1998 a new 4-year BEd (Primary) degree program was introduced at the University of New England (UNE). The new unit structures and teaching and assessment processes were aimed at facilitating students’ attainment of generic teaching skills alongside their development as ‘professionals’ who engage in ongoing learning, and personal and professional growth. This study therefore aimed to research, in an integrated way through the use of portfolios, the challenges we see in teacher education related to student learning, reflective practice, professional growth, assessment and evaluation.

It is not our aim within this paper to provide comprehensive and conclusive outcomes from the study. Reports on our interim foci, analyses and discussions from the study can be found in Frid and Reid (1999), Reid and Frid (2000), and Reid and Frid (2001). The main focus taken within discussions here is on how professional portfolio development fostered conceptions of teaching ‘competency’ as a multifaceted, dynamic, complex and interconnected process that requires student teachers to use their knowledge, skills, flexibility, insight, commitment and initiative in the construction of a teaching ‘self’ for public scrutiny.

2 Theoretical Perspectives

The research is framed within two main themes within educational research literature: reflective practice and poststructuralist perspectives of human subjectivity. Ongoing reflection on our own practices was the catalyst for conceptualisation of this study, particularly as we examined and re-considered issues related to the role of the school practicum, integrated curricula, the role of technology, the intents of specific teaching and assessment activities, and the relationship between competency and professionalism. This last issue induced us to explore more carefully our understandings of teacher education as a process of formation of a professional subject – a “teacher-self” (Reid, 1997). Hence, we introduced poststructuralist perspectives to frame aspects of our data analyses and discussions.

2.1 Reflective Practice

There has been a tradition of research in teacher education focussing on the teacher-researcher (Kemmis & McTaggart, 1990; Kincheloe, 1991), with an associated emphasis on reflective practice as a means of both promoting and supporting professional growth (Francis, 1995; Holly, 1989; Schon, 1987). In fact, the notion of the 'reflective' teacher has become a trope for post-technicist teacher education over the past quarter century (Kincheloe, 1991; Gore, 1993). Numerous mechanisms to promote reflective practice with pre-service teachers have been considered, including the use of critical incidents, autobiographies, metaphor analyses, critical friends, teacher interviews, classroom ethnographies, peer observations, self-assessment, journal writing, portfolios, and action research (Francis, 1995; Tripp, 1993; Frid, Reading and Redden, 1998). The focus that reflection might take is also documented in the literature, ranging from the technical-practical-emancipatory distinctions made by van Manen (1977) to that of the beginner-teacher-students-autonomy stages of the work of Furlong and Maynard (1995) in their studies of student teachers. What it means to be 'critically' reflective as opposed to being merely reflective is also an issue that has been examined in that critical reflection is seen to be complex (Frid, Reading and Redden, 1998). It takes many forms, is not easily learned, requires both breadth and depth of related knowledge, and needs analysis and synthesis skills.

Various forms of a teacher professional portfolio have been promoted as vehicles for supporting professional reflection and learning, although documentation of teaching quality or competence, rather than reflection, has been a more prominent focus within these accounts (Barton and Collins, 1993; Loughran and Corrigan, 1995; McLaughlin and Vogt, 1996; Lyons, 1998). It is claimed that a portfolio allows demonstration of 'professionalism' in that the *process* of developing a portfolio necessitates the recording and evaluation of activities, processes and related decisions that would characterise a professional teacher (Loughran and Corrigan, 1995; McLaughlin and Vogt, 1996). Hence, portfolio development can bring together systematically and holistically the notions of reflection, assessment of one's learning, program evaluation, and professional competency.

2.2 Portfolios from a Poststructuralist Perspective on Human Subjectivity

Poststructuralist theorists suggest that human subjectivity is formed in and through *practice*, so one's identity as a teacher is formed in and through the *practice* of teaching (Bourdieu, 1992). Behaviours, attitudes, and modes of speaking and acting are therefore formed and structured in relationships of power and discourse (Foucault, 1988). Thus, post-structuralist notions of human subjectivity enable one to move beyond traditional constructivist accounts of learning where a pre-formed student teacher 'self' becomes more knowledgeable through engagement in the teaching-learning process, but whose 'essential' self remains intact and coherent. In such a view, reflection is seen as a useful process of clarifying or disclosing the 'self' in action in ways that will allow for rational change (improvement) in future action. Instead, if a student teacher 'self' is viewed as always under construction and produced differently in different circumstances (Henriques, Hollway, Urwin, Venn and Walkerdine, 1994), it can be actively constructed to fit the norms of the powerful discourses that structure our views of good teaching in particular situations..

A poststructuralist view of human subjectivity as diffuse, multiple, and continually under formation is useful to teacher education in that it enables teacher education, like schooling, to be viewed as a practice producing subjects. It is concerned with the formation of particular forms of 'teaching' subjects, in and for particular contexts. In this way, student teachers are constructed as knowledgeable and capable educational "agents" (Green and Reid, 1995; Reid, 1997). The attraction of a professional portfolio in such a theoretical context is that a portfolio is a living document, a "record of a teacher's practice selected for a particular purpose" (Standards Council of the

Teaching Profession (SCTP), 1997, p. 3). It goes beyond any sense of a pre-existing, unique teaching self. It is “a story told by the teacher”, structured according to “the particular purpose for which the portfolio is being prepared” (SCTP, 1997, p. 5). In this way it is an exemplary instance of a teaching ‘self’ constructed, or compiled, within a particular situation of practice.

A portfolio, like a journal, requires the student teacher to engage in self-evaluation and reflection. However this reflection is explicitly about “evidence” of teaching development. It takes the form of “a short reflective commentary” (SCTP, 1997, p. 7) on selected examples of work. Evaluating and commenting on the range of appropriate evidence of one’s learning and teaching offers teachers an opportunity to “draw on a wider frame of reference ... [and] “evaluate and rethink their experiences” ... (Loughran and Corrigan, 1995, p. 567). This can provide opportunity to better see connections amongst the items they select for inclusion in a portfolio. As Shulman (1998) notes, “a portfolio is a theoretical act” (p. 24):

By this I mean that every time you design, organize or create ... a framework, or a model for a teaching portfolio, you are engaging in an act of theory. What is declared worth documenting, worth reflecting on, what is deemed to be portfolio-worthy, is a theoretical act. (Shulman, 1998, p. 24)

On the basis of our research, we argue that student teachers need to have a site such as a portfolio, as well as the opportunity to rehearse and try on a range of new discursive positions, even if only tentatively and inadequately at first. They need a put into practice being the ‘good’ subject of the dominant discourses of their new profession. The teacher education setting can provide the guidance and collaboration that will allow student teachers to produce themselves as different sorts of teachers for different sorts of occasions. For example, different views of desirable attributes needing would structure the portfolio the same student might produce for a large inner-city primary school, or a small two-teacher school in a rural community, or for inclusion in an Honours Program. The self that must be produced in each of these situations is demonstrably different, and it is important that a teacher education program provide student teachers with the opportunity to compile such a range of teaching selves within the safety of their pre-service education. This is the context for the action research project under discussion here.

3 The Research Process and Outcomes

The research project began in 1998, as a new 4-year BEd (Primary) program began implementation at UNE. We were exploring how we, as teachers in the new degree, could devise learning activities and forms of assessment that would accumulate over the duration of the program so that student teachers could develop a record of their professional development as competent and reflective teachers. That year we had a group of first-year volunteer students who we worked with us to review the year as a whole. We applied for funding from our institution for the Professional Portfolio Pilot Project. We were thus able to set up during the next year weekly 1-hour lunchtime meetings with the Portfolio Group who volunteered to be part of the project. The meetings were designed as collaborative action research involving staff and students, and thereby used a spiralling program of planning, action and reflection (Kemmis and McTaggart, 1990; Zuber-Skerritt, 1991). This allowed for and valued flexibility, so that short and long term meeting agendas could be adapted to the emergent needs and interests of the participants. In this way, the project was ever-evolving, within a particular year as well as across the years.

Research data were collected in several forms that varied across the years. In 1998 and 1999 we audio recorded group discussions, and also collected written responses to survey questions about students’ perspectives on their learning and experiences in their

BEd program and the Portfolio Project. We collected video data from formal presentations the students made in 1999, 2000 and 2001, and in all years we had work samples constructed in weekly sessions and from more formal portfolio presentations. The research findings we present here were analysed and summarised through a grounded approach (Powney and Watts, 1987), with notions of teaching competency, reflective practice, and poststructuralist theory guiding the foci for the emergence of key themes.

3.1 The Research Group

Seven students volunteered to participate in the research: six women and one man (Rosalie, Maia, Jen, Kate, Melissa, Rikki, and Martin). Over half of this group, Rosalie, Maia, Jen and Martin, were mature-age students. Martin and Rosalie continued in the project until the end of 2000, and at that point, as a result of acceleration in their degrees, progressed into their final-year internship a semester early. They were thus not officially part of the research group in the final year, 2001. Jen also was unable to participate in the final year because she discontinued fulltime studies to find work to support her family after separation from her husband. The other four students continued participation throughout the project, and were joined in the final year (2001) by four additional students when the whole group enrolled in a new 'special topic' elective unit focused on portfolio preparation and presentation.

The younger students, Kate, Melissa and Rikki, had entered the BEd program under the Schools Referral Admissions Scheme (on principal's recommendation). This is an equity program which allows students from rural high schools the opportunity to study at university without necessarily having received the required tertiary entrance scores in their HSC examination. None of these students was academically strong, and they lacked confidence in their abilities.

3.2 Initial Portfolio Development (1999)

In 1999 the students entered second year, and we planned the research to ensure that the students were familiar with each of the five areas of competence outlined in the *National Competency Framework for Beginning Teaching* (National Project on the Quality of Teaching and Learning (NPQTL), 1996). At weekly meetings we discussed each of the five areas of competence:

- (1) Using and developing professional knowledge and values;
- (2) Communicating, interacting and working with students and others;
- (3) Planning and managing the teaching and learning process;
- (4) Monitoring and assessing student progress and learning outcomes;
- (5) Reflecting, evaluating and planning for continuous improvement. (NPQTL, 1996).

The document outlines four to eight *elements* within each of these five areas, and provides several *indicators* of effective practice for each element. Overall, the document therefore provided the group with thirty-two elements of 'competency'. Along with the related sample indicators for each element, this amounted to hundreds of statements about 'competent' teaching.

3.2.1 *Developing understandings of teaching 'competency'*

Developing understandings of teaching 'competency' from the national framework was tackled strategically by initially focussing on only one area of competence at a weekly meeting. The numerous indicators, along with the students' own interpretations and ideas for each element, engendered comprehensive weekly discussions about teaching and evidence of teaching 'competency'. In making meaning from and striving to understand the competencies, the group endeavoured to contextualise the discussions by focusing analyses of elements and indicators on their student teaching

experiences and the learning and assessment activities they were completing in their university studies.

This reflective process led both staff and students to view weekly workshops, tutorials and lectures, as well as the school practicum, in more encompassing ways. For the students, considering how work they were doing might be suitable for filing as evidence of one or more elements of competency gave them insight into what they were learning in their studies, and why the curriculum was structured in the way it was. For example, they saw that a Learning Cycle assignment in the mathematics curriculum area that required planning of a sequence of lessons could be used to demonstrate several elements of competency according to the national framework (NPQTL, 1996). These include competencies such as understanding “the relationship between processes of inquiry and content knowledge” and using “educational processes appropriate to the curriculum and the field of inquiry” (p. 30); understanding “how students develop and learn” (p. 31); and structuring learning tasks effectively (p. 49). In a similar fashion, an essay on special needs students could be re-presented as a poster to document achievements in several areas, including “operat[ing] from an appropriate ethical position” (p. 33); “value[ing] diversity” (p. 35); “recognis[ing] and respond[ing] to individual differences” (p. 39); and “match[ing] content, teaching approaches and student development and learning in planning” (p. 47).

This process of analysing work samples brought to the forefront for all the group (staff and students alike) that using the national competency framework necessarily involves seeing evidence of teaching competency as much more than a collection of many items, each selected to document one of the thirty-two competency elements of the framework. Early in the process it became clear to the group that the nature of teaching and learning is such that the thirty-two competency elements of the framework are not distinct. The focus of each element is itself potentially multi-faceted and can only be fully articulated by placement within a particular context. Further, since evidence is itself necessarily contextualised and thereby inclusive of a range of features of an educational situation, evidence of ‘competency’ must necessarily touch upon more than one aspect of ‘competency’. To attempt to focus on only one element of competency at a time in presenting a piece of evidence results in an incomplete portrayal of the educational happening and its context.

3.2.2 Developing a teaching ‘self’

Since the question of representation of teaching competence within a portfolio was the central focus of the research group discussions throughout the year, it was inevitable that the students were each grappling with a personal teaching ‘self’ and its representation. They expressed an awareness of how the process of using the teaching competencies for framing their thinking had been self-empowering for their development as teachers: “Up to the point that we started doing these [the teaching competencies], I don’t think I knew much about what we needed to do, or were capable of” (Kate). There still remained the challenge of representing this development in a public way.

Thus, when the idea of a formal portfolio presentation was discussed in June it was envisioned as a sort of poster display by each student of selected items that would each provide evidence of a range of competencies, much in line with the weekly discussions of how portfolio items might be constructed in connected, holistic, comprehensive ways. As it had been earlier, it was evident at this point in time that the students saw portfolio development as a means of getting a job, and in particular, in presenting themselves in interviews. That is, their sense of presentation of a teaching ‘self’ was inextricably linked with the self they would want to present in a job interview:

I think that the portfolio itself is really good because my aim with it is it's going to get me a job. Might make me more employable than some of the others that aren't coming. (Maia)

Also interviews, like I'm not good standing up in front of my colleagues. Whereas I'm not scared at all standing up in front of kids. ... It would be great if you could have an interview sitting on the floor, and you know, in your joggers, ... it wouldn't be so formal. I think you would get a lot more across then. You'd feel a lot more comfortable doing it. (Melissa)

As students expressed their thoughts about representing their teaching 'selves' in interviews it was clear that, although they felt portfolio preparation was beneficial for interviews, they had concerns over the power structures inherent in an interview process. There was a sense that they felt required to present themselves as teachers according to procedures determined by someone else (for example, the Department of Education), a structure they did not feel fully allowed them to equitably and authentically portray who they were as teachers. However, as planning for the portfolio display progressed over the next four months these same pre-service teachers developed broader identities of themselves as teachers and how they might interact with and represent themselves to teachers and others. Their views of the inherent power relationships between themselves and more experienced educators, along with awareness of their capacities to function in related discourses changed. In fact, they became empowered to perceive these relationships in ways that did not place them at the 'bottom of the ladder' with regard to their capacities as educators.

First, the actual nature of what was envisioned for the display changed dramatically. The word 'Exhibition' (rather than display) was adopted to more adequately portray the notion of an interactive, multi-dimensional showcasing of individual and group achievements. The students virtually 'took over' from us the researchers in determining the content and format of this Exhibition. Rather than a somewhat static poster display in which they all presented similar sets of items, they decided the Exhibition needed to have variety and be interactive and visually enticing. They examined their individual and group strengths and focused upon how these might be presented in innovative and "futuristic" ways.

The Exhibition thereby became an overall artistic, creative production that included colourful posters, photos, computer demonstrations, lesson plans and programs, examples of the use of syllabus documents, examples for putting theory into practice, media publicity, and more. The students chose to focus on their own individual strengths as teachers, as well as some of their collective achievements. A wide variety of foci and means of presentation resulted. Rosalie used her IT interests and skills to produce her vision of "The Millennium Classroom"; Martin displayed how he had used Indonesian as a second language to integrate learning across the curriculum; Kate chose to focus on her expertise in music; Rikki used picture books as an integrating strategy across the curriculum; and Maia, because of a strong interest in fostering student thinking, developed a display based on Bloom's taxonomy. In addition, the group prepared two 'group' displays to demonstrate their capacities to work as members of a team – one from their integrated curriculum programs prepared in a unit, and the other as a summarised collation of their learning in relation to educational equity, inclusivity, and special needs students.

The event was filmed by the local television station, and the following quotations from the news broadcast indicate the value the students were finding in portfolios as a form of assessment:

With exams, there's only one winner, but when you use a portfolio, everybody wins. Everyone can show their strengths and weaknesses. (Martin)

With portfolio assessment, you're not just testing or examining specific things that are banked up in your memory. With a portfolio you're actually able to explain the depth that is involved with teacher education.
(Rosalie)

Two main things emerged as to how the group saw themselves: (1) as a group, working collegially to support each other and share and become more competent teachers, and (2) as possessing particular forms of expertise that they could share with more experienced educators. Their sense of group support and identity were strong, and they expressed a desire to represent themselves at the Exhibition in ways they saw authentic to what they had actually been doing in their BEd program – working with others to share ideas and create new things.

3.3 Ongoing Portfolio Development (2000)

In 2000, the students entered third year and the Portfolio Group continued meetings on a fortnightly basis. As we reflected on the previous year's work, and moved into a new action research cycle, our concerns and action focus changed. In the third year of the program, the students would have longer and more demanding school experience placements, and we realised that the 'talent' or 'special expertise' focus of the previous year's portfolio display was no longer appropriate. It gave insufficient emphasis to the complexity of teaching in that it did not provide for presenting teaching 'selves' that are comprehensive across all the areas of competence. Further, the students felt a narrow focus would not be sufficient for them to "get a job", a goal the students were continuing to focus upon.

Hence, to move beyond a display of a specialised teaching 'self', as been done at the previous year's Exhibition, we introduced the students to the idea of roundtable assessment as advocated through the National Schools Network Authentic Assessment program (National Schools Network (NSN), 1997). There was much discussion of how a roundtable interview would work in our situation, and the sorts of evidence that they could accumulate and present to address each of the areas of competency we were attempting to cover through our ongoing reflections on their campus and school experience programs. It was decided that we would invite an industry representative (the deputy principal from a local school), an academic, and a professional support person (the university Careers Officer) as 'examiners' (the audience) for a portfolio presentation. However the students requested that the presentation should happen as a 'group' employment interview, so they could gain confidence and practice for the real professional experience that they would need to do individually when seeking employment.

The Group Interview was scheduled for August, with the third-year research group seated around the interview table. The three interview panel members directed questions to each of them in turn. This process was done as a fishbowl exercise, with second year students, ourselves, and other interested invited academic staff sitting around the edges of the room as observers. The research purpose was for us to find out how the students would, in an actual interview situation, physically use, introduce, and display evidence of their competence in their portfolios. There was no sense that this was either a mock or an unimportant interview, even though, of course, it actually had no bearing on any grade or formal assessment for the students. The students were nervous, unsure of how to use their portfolios, and the panel was briefed only with the instruction that they were to determine the suitability of the students for employment.

The video shows that the students dressed formally, answered inexpertly, and, as the panel discussed with them in a review session later, did not appear as well rounded professionals ready to take up a position in a school. Only one of the students, Martin,

would have gained a job from that interview. The students, though presenting themselves well as people, and collaboratively assisting each other to expand answers where they could, did not talk and act with professional confidence in their knowledge. Of more concern to us, though, was that they found very few opportunities to even open their portfolios to talk about the material they had presented there for display and elaboration on their answers. As a group, apart from Martin, they were despondent about the interview 'assessment'. They felt disappointed at the fact that the work they had put into their portfolios was not displayed or drawn upon at all, and so they decided to learn more about interview technique before they presented themselves for any real job interview.

3.4 Final Portfolio Development (2001)

In 2001 we were able to offer a one semester 'special topic' elective unit called 'Professional Portfolios'. The unit quota was eight, and this quickly filled with the four remaining members of the Portfolio Project Group: Rikki, Maia, Melissa and Kate, joined by four other fourth-year students, Daniel, Tara, Leanne and Angela. As mentioned earlier, we lost three of the original seven students of the research group in 2001 (Martin, Rosalie and Jen). At this same time, one of the authors (Sandra Frid) moved interstate to commence a new job at Curtin University.

Since the research project in the previous year had continued to indicate that the students' saw job interviews as the eventual use of their portfolios, the unit was designed to cater for this goal. It was intended to provide a forum in which the students could draw together in a reflective and selective way their learning thus far in their BEd program. This would culminate in a 'final' portfolio compiled to display a teaching 'self' appropriate for employment, with this display taking the form of a written hard copy document along with an oral interview of some form.

3.4.1 Developing a portfolio for job selection

As all of the 2001 research group would be seeking employment within NSW we decided to use the NSW professional teaching standards to guide portfolio development in 2001 (NSWDET, 1998, pp. 64-68), rather than the national competency framework. The NSW framework has similarities to the national one in its emphasis upon reflective practice, and knowledge and skills for educational planning, management and assessment, but it differs in its inclusion of a competency element related to leadership. The document states that effective teachers are (p. 65): (1) Masters of the content and discourse of the discipline(s) from which the subjects they teach are derived; (2) Committed to their students and their holistic development; (3) Expert in the art and science of teaching; (4) Exemplary in their management of student behaviour in classrooms and other teaching contexts; (5) Leaders of learning communities; (6) Accomplished in assessing and reporting the learning outcomes of their students; and (7) Reflective practitioners and embody the qualities of the educated person and exemplary citizen.

The decision to use the NSW elements of competence is in itself a relevant outcome of the research project in that it is further evidence of how the group developed understandings of teaching competency as a concept that is multi-faceted, flexible, and contextual in nature. In addition, it once more highlights how the teaching 'selves' the students were aiming to present in their portfolios were being constructed within the practice, discourse and power relations of job interviews. The students from the original research group switched easily from one framework to the other, indicating once more that reflection on their development of teaching 'competency' during the previous years had assisted them to begin to build awareness of a wide array of features of 'competency' and their own achievements in these regards.

As we had only one semester before the students would leave campus to complete their Internships (Term 3 of the school year), and as their Departmental Interviews for employment were planned to take place during the Internship, the group agreed on a very tight weekly 2-hour meeting schedule. Each element of competence was examined alongside possible sources of evidence from on-campus units and school or community experiences. The students took responsibility in pairs to plan the sessions for two areas of competence, with the 'old hands' going first to provide a model for the newcomers. Each area was allocated one and a half sessions, and students received 30% of their unit grade for their seminars. Each week's session began with a 'show and tell' of a portfolio page concept, draft, or (towards the end of semester) a finished page of the portfolios in progress.

It was agreed that the final assessment would be modelled on the roundtable assessment (NSN, 1997) that we had approximated but not fully experienced the previous year. We decided on individual roundtable presentations to a panel that comprised representatives of the profession, the university and the community. In the event, the roundtable panel consisted of eight people: a school principal, a school teacher who was the regional Department of Education training and development officer, a professor of education, the two authors (one of whom had not worked with the students for 12 months but had worked with them closely for the three prior years), a lecturer familiar to the students who was coordinating a compulsory teaching project unit that semester, the research group critical friend (a teacher and PhD student), and a student's own choice for a panel member (usually a friend from the BEd program).

This was a large and daunting panel for the students, as we were seated around a large table, like a formal interview, all facing the candidate. The interview questions were formalised, and each student was allowed 30 minutes for the interview. Each student's performance was recorded on videotape, with one copy for the research team and one for the student to review prior to the DET interviews three months later. Panel members recorded written feedback for each student on a form that was split into sections, one section for each of the seven areas of competence (NSWDET, 1998). The feedback sheets were collectively summarised for each student, and the researchers also examined the written portfolios and made comments for the students. The two forms of summary feedback contributed to the final assessment and grades for the students in the special topic unit, and they also served as data for the research.

3.4.2 Presentation of portfolio teaching 'selves'

The professional portfolios as presented by the students in the roundtable sessions and in written form revealed several key outcomes of the portfolio development process, including: (1) the value of in-depth and ongoing examination of what teaching 'competency' might mean, (2) the value of long-term, ongoing reflection on one's practice, and (3) the capacity to develop a teaching 'self' that is empowered for professional action and lifelong learning.

Teaching competency presented as complex and connected

The hard copy portfolios as submitted immediately following the roundtable sessions were quite diverse in their overall presentation format, making them very individual in nature. These differences included the ways the students used colours, numbers, or icons to document the seven areas of competency. There was therefore much variance in 'visual appeal'. Some pages were more 'dense' or 'cluttered' than others, and the use of colour schemes, photos and work samples varied. The depth or breadth evident in a particular portfolio item varied dramatically, since the items ranged in nature for a simple certificate of some sort through to multi-faceted 'pictures' that included fold-out windows, photos, artwork, charts, diagrams, and student work samples. Thus, there was significant variation in the degree to which portfolio entries communicated in concise yet meaningful and in-depth ways. For example, appropriate use of charts or diagrams

captured many things simultaneously, presenting teaching competency as multi-dimensional and complex.

The portfolios also differed in the degree to which they documented the seven areas of competency. Some explicitly indicated (eg. with arrows, short statements, indicators) what competencies were in evidence and how particular portfolio items showed this. Other portfolios, in their presentation format, in fact left the reader to 'read between the lines' to figure out what particular items were intended to show. That is, they did not articulate clear connections between what was in the portfolio and the related competencies. This degree of connectedness was distinctly different between portfolios, and appeared as a major communication feature that can lead to a 'better' portfolio.

Portfolios as a technology for reflective practice

The portfolio itself is a reflective process, and the opening question of the roundtable sessions addressed this, so all students showed evidence of the use of reflection for portfolio development. They also made clear that they recognised and valued this process, to a degree they had not anticipated. For example, their responses to the first question included:

When I first started with this portfolio group and I read through the competencies, I went: 'Oh my goodness. I don't know anything. I'm not competent at all.' So it was really good to have a look at those competencies and to have a look at evidence in that I had collected a variety of resources which actually said to me that I was more competent than I had realised that I was. The portfolio was really good in doing that for me, and just helping me to understand realistically what is involved in being an effective teacher. So that was really good, most worthwhile. (Leanne)

I've learned a lot about what I know. Most of the stuff I didn't think I did know until I sat down and did it. And after going through the pink sheet [the 7 elements of effective teaching] and thinking about the questions I might be asked in this interview, well, I do know this and I can do it, and I will do it. And it's just a matter of showing that I can. I think this is a great, idea, to show not just say what I can do. A certificate is a certificate. It has your name. It might say you can do this, but can she really. ... this shows I can do it, not just on the day it was meant to be done, but throughout my whole teaching career. ... and I'll be adding to this throughout my career. So I know I can do it. You know, ... and you can show that you know. (Rikki)

[I learned] ... a lot about different areas that I didn't really think about before I started doing this. Things I didn't know I had to know about as a teacher, through the competencies ... gave me an idea of where I hadn't covered things yet and where I could move on from there. (Melissa)

Overall, from the roundtable sessions it appeared that, in general, the students who had been involved longer were better able to articulate their ideas. More importantly, it appeared they were able, in general, to get beneath the surface of teaching, to discuss the *why* rather than merely the *what* or *how* of teaching. For example, when Kate spoke about her special interest in music she used the related entry in her portfolio to briefly outline what she had done to write and implement a music teaching manual. But in addition, she went on to explain why she included particular types of activities, how she used a holistic approach to student learning, how technology was integrated, what activities were intended to achieve, and how and why they might be adapted flexibly for different situations or students. When Rikki explained why she included in her portfolio what might appear as a simple schedule and day book entry, she spoke about why they were laid out in the way they were; how this showed the importance of organisation and planning; and how these showed her competencies in these areas. When Maia explained

how her teaching caters for a mixed ability classroom, she brought in the theories underlying Bloom's Taxonomy, Gardner's Multiple Intelligences, group work and the role of hands-on activities. Importantly, she explained why these ideas are valuable and how using them to plan learning activities can in fact cater for diversity.

In comparison, when Daniel responded to the same question, he said he would use small group work, but he did not elaborate upon this. His response to a question about teaching effectiveness was similarly brief: "Through observation and if I am getting the message across. ... I've got learning cycles. ... they're important too." When prompted, Daniel was sometimes able to give an example and say more, but even then this was not detailed or elaborated. His portfolio and his talk about it appeared as a 'collection' of things, of 'stuff' cut from various sources without much analysis. He could outline what things were, and with prompting sometimes give some indication of his knowledge of related 'how' or 'why' factors, but overall his portfolio did not present evidence that he had examined teaching issues beyond "I use what works." "What works" was a disjoint collection of pieces borrowed from here and there across his university studies, school experience, and sporting and coaching endeavours. He had no evidence of unifying concepts that reappeared and integrated across portfolio items, as for example Rikki did in her use of 'wardrobe shoeboxes' for classroom management and fostering student learning, and Kate did in her frequent stressing of the role of positive reinforcement for student learning. These latter two students, as did some of the others, regularly articulated responses to questions by using explicit examples from their experiences along with related reflection analyses.

Thus, there appeared to be variance between the portfolios in the degree to which students had 'ownership' of the contents of their portfolios versus having borrowed ideas from others or from various readings or education documents. It appeared that this was related to how long they had been involved in portfolio development, with the newcomers not displaying as strong a sense of ownership. Here, by 'ownership' we mean that students were able to discuss their ideas, philosophies and practices within a coherent and cohesive perspective that was a personal 'blending' from a range of experiences and sources. They had personally constructed connections between the items in their portfolios and what they evidenced regarding competencies, and they had personally constructed connections that displayed their underlying teaching ideas and philosophies as connected to reasons for ideas. That is, they appeared to be more self-aware of their ideas, where these had come from, and how they had developed through various experiences.

Related to the notion of 'ownership' as a capacity to 'blend' ideas was the fact that some of the portfolios showed evidence of the integration of theory and practice (eg. use of Bloom's taxonomy, theories of classroom management, ideas from Piaget or Vygotsky, or what is meant by 'literacy'). Achievement of a capacity to inter-relate theory and practice is documented in the literature as difficult within pre-service education. Thus, this research points to portfolios as a means by which to more fully foster both understandings and skills in inter-relating and connecting theory and practice. Although our sample here was small, there was some indication that these connections were more fully developed in the portfolios belonging to students who had been involved over several years.

Portfolios as a vehicle for professional empowerment

We were awed by the confidence with which some of the students spoke during the roundtable sessions and the way they clearly and succinctly articulated ideas, even though they also showed some nervousness. It appeared that the students who had been involved longer in the portfolio process presented themselves with more confidence, clarity, and professionalism. Their communication skills in this regard were exemplary. They dressed professionally, made eye contact with the panel members, stood or sat according to what was appropriate for how they were displaying a portfolio item, listened attentively, asked for clarification of questions when needed, and spoke clearly and with

appropriate use of English. For one of the authors (Sandra Frid), who had not worked with the students for over 12 months, it was a refreshing ‘shock’ to witness both the professional nature of the presentations as well as the depth and breadth with which the students spoke. In comparison, three of the four newcomers did not all have the same degree of professional polish. The sample numbers here are small and therefore the findings are tentative in nature, but they do point once again to the need to have portfolio development as an ongoing and long term process if it is to achieve its full potential.

The leadership question was a tough one for a beginning teacher. It appeared that, in general, the students who had been involved in the project longer handled this question more completely:

I think what I am doing now is leadership because there’s only seven of us that actually did this project. So I think that’s a BIG leadership thing because people stop me and think: ‘Oh, I’m never going to get a job after you go for one.’ ... With this, I have a professional duty to be a leader. That’s what I am there for. But not just a leader. I’m a team person as well ... I think that as a leader I have to bring in the community as well and what the parents and others think ... you have to be a partner. (Rikki)

[A leader] needs to be an effective communicator, and I have this ...[explains a portfolio entry about communicating with parents when she implemented an innovative integrated curriculum unit while on school experience]. ... colleagues are there to learn from. ... I would inform them and also show them how I can support them [in using music in the curriculum]. (Kate)

These students had constructive ideas, and showed evidence of considering themselves as future leaders, and did not appear daunted by this. This is potentially a very important finding because a couple of years prior we would not have identified Kate or Rikki as future educational leaders, yet it appears they will now be able to function in that capacity. In fact, they themselves indicated that they see themselves as potential leaders and able to make significant contributions to the teaching profession.

Another aspect of the sense of leadership revealed in these students’ comments that was very prominent in the original group members’ presentations was a sense of community and working as part of a team. This was in fact how they had worked for nearly four years as participants in the research project, and it appeared to have influenced their identity as professionals and what they value in those teaching ‘selves’. Being part of a team and working with other people in a variety of ways to enhance one’s practice was a theme that emerged in their roundtable sessions. It was not a focus of any particular question in the sessions, but rather, emerged as integral to the teaching ‘selves’ the students presented.

4 Conclusions

This research was conceived as a vehicle by which to address the on-going challenge for teacher education of preparation of teachers as technically competent in basic teaching skills, as well as professionally knowledgeable and capable in an increasingly diverse social, cultural, technical and economic environment. The findings of this small scale, exploratory, longitudinal study indicate that portfolios developed in an ongoing manner, with reflection as a technology to foster development, show much potential in addressing this challenge in effective and flexible ways.

The professional portfolios as presented by the students in the roundtable sessions and in written form demonstrated to us that portfolio development has much to offer pre-service teacher education with regard to preparing teachers who are both technically competent and professionally reflective. We have evidence that the portfolio process

assisted students to initially develop awareness of the multi-skilled nature of teaching along with the complexities of educational contexts and processes. From this growing awareness of the breadth and dynamic nature of teaching and learning, students were able in an ongoing way to reflect upon their learning and development as teachers. They were able to use this learning to document capacities within a range of areas, and in this process were in fact learning to identify, articulate and justify their ideas, values and practices as teachers. Thus, we see portfolio development as beneficial for providing pre-service teachers with opportunities to develop a range of teaching 'selves'.

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