Assessing professional teaching standards in practicum using digital technologies with Aboriginal and other pre-service teachers

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This project would not have been possible without the PSTs who willingly participated in the project. We extend our greatest appreciation to them.
List of acronyms used

AARE: Australian Association for Research in Education
ACER: Australian Council for Educational Research
AEOs: Aboriginal Education Officers
AeP: Australian e-Portfolio Report
ACU: Australian Catholic University
AITSL: Australian Institute for Teaching and School Leadership
ALTC: Australian Learning and Teaching Council
ATEA: Australian Teacher Education Association
CEO: Catholic Education Office
CSU: Charles Sturt University
HERDSA: Higher Education Research and Development Association of Australia
ICT: Information and communication technologies
JISC: Joint Information Systems Committee
MCEECDYA: Ministerial Council for Education, Early Childhood Development and Youth Affairs
NSW AECGI: Aboriginal Education Consultative Group Incorporated (AECGI)
NSW DET: New South Wales Department of Education and Training
NSW IT: NSW Institute of Teachers
OLT: Office of Learning and Teaching
PSTs: Pre-service teachers
QTM: Quality teaching model
RMIT: Royal Melbourne Institute of Technology University (RMIT)
UWS: University of Western Sydney
Executive summary

The extent to which pre-service teachers undertaking practicum in remote/regional locations are able to share knowledge about teaching practice, standards and quality relies on overcoming challenges of inexperience, distance, technology and culture. This report details how three universities supported Aboriginal and other cohorts of pre-service teachers (PSTs) to evidence and self-assess their professional teaching standards during their practicums in schools with substantial Aboriginal populations. The students used digital technologies to enhance and document their achievement of standards and to develop a professional learning community of PSTs willing to develop inter-cultural relationships and share knowledge about teacher practice. Key issues addressed in this report include ways PSTs made judgments about their own practices while undertaking practicum, how they selected evidence to demonstrate professional standards and how they represented their professional self in the public arena. The dispersed cohorts, institutions and practicum communities involved in the project benefited from using digital technologies to promote collegial collaboration, bridge geographical distances and facilitate developing meaningful feedback, self-reflection and self-assessment practices in relation to attaining professional teaching standards.

Professional standards are a mandatory framework for teacher registration and accreditation and universities involved in teacher education are expected to link their programs to these standards. Addressing professional teaching standards can be challenging for inexperienced PSTs and these challenges may be compounded when they undertake a practicum in a remote and/or rural community. Considering this, this report identifies how the project team and the project participants explored practical solutions to ongoing challenges for PSTs. These included: How can teacher education programs build capacity for PSTs through using digital technologies to meet teaching standards? Are issues of assessment of attaining professional teaching standards different or more difficult for PSTs on practicum placement in different locations (urban, regional/rural, or remote)?

The emphasis on Indigenous cultures and rural and remote education in the Melbourne Declaration on Educational Goals for Young Australians (DEEWR, 2008) suggests that attention to these contexts is important when building the capacity of teachers. Cultural tentativeness and power relations can create tensions that work against the formation of genuine and sustainable learning communities. This report explores ways to enhance the connections between PSTs and existing communities and how these may be used to build particular capacities to demonstrate professional teaching standards. The report provides recommendations for good teacher education practice inclusive of technological tools to address professional teaching standards within both university and school contexts. It also examines the possible creation of partnerships between university academics and teachers at transition points in their careers to further facilitate teachers’ professional development. The report presents recommendations that explore ways to use digital technologies to build capacity for new teachers working with Aboriginal, rural, regional, remote and urban communities.
Projects such as this are vital to PST education. The accountability required for all PST education courses is that graduates demonstrate achievement of the Australian Institute for Teaching and School Leadership (AITSL) Australian National Teaching Standards at the end of their course of study. Pre-service courses are expected to prepare their graduates to demonstrate professional teaching standards via a submitted evidence process at the level of ‘teaching competence’ in order to begin working as a beginning teacher. This project ensured that the PSTs who participated were able to increase their knowledge and understandings about professional teaching standards and, through a supported process of selecting and annotating evidence of their competence in the language of professional standards, increase their skill in reflecting on their own teaching practice. The wise selection and documentation of relevant artefacts of their teaching, and the use of critical analytic skills combined with increased knowledge to produce an e-Portfolio, allowed them to professionally present strong evidence of their achievement of professional teaching standards at a graduate level. The use of digital technologies and the involvement of both Aboriginal and other cohorts of PSTs further enhanced the outcomes of the project.

In addition to the recommendations listed below, the projects team identified a number of important ‘serendipitous’ and important lessons. These are addressed incidentally within the body of the report, and include:

- Using technology that is simple, easily accessed and freely available to support communication and e-Portfolio development;
- The value of sharing between Aboriginal and other cohorts of PSTs to facilitate developing inter-cultural relationships;
- Self-assessing professional teaching standards during practicum;
- The value of collaboration in constructing e-Portfolio to showcase PSTs’ achievements;
- Technologies are always problematic and alternate ways need to be planned for when undertaking this type of work;
- It may be useful to encourage PSTs to build ongoing relationships and maintain networks outside their involvement in the project through other ways such as face-book.

Recommendations

Recommendation 1
AITSL/OLT should consider the provision of targeted support to promote further inter-university collaboration and facilitate the benefits of collaboratively developing tools and resources for PST reflection and self-assessment during practicum, as demonstrated by this project.

Recommendation 2
All teacher education programs should provide explicit instruction in familiarising PSTs with the processes of teacher accreditation and the AITSL National Professional Standards for Teachers throughout teacher education courses and prior to practicum placement.
Recommendation 3
Teacher education courses should strongly consider the use of e-Portfolios to evidence professional teaching standards and learning arising from the practicum.

Recommendation 4
Teacher Education courses should make available to all PSTs a full range of digital technologies that are intuitive and accessible such as Microsoft Office programs and open access software like Skype™ and Weebly.

Recommendation 5
Teacher Education courses must ensure that Aboriginal and Torres Strait Islander perspectives are taught in teacher education programs and PSTs are encouraged to teach in practicum schools with significant Aboriginal student populations and develop links with local communities.
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Key Terms

Digital technologies: A broad term for communication technologies that can be used to build and maintain a virtual network that allows distant participants to interact with each other, demonstrate their engagement in self-study, and evidence standards.

e-Portfolios: “A collection of works that represent physical evidence of achievements” (Mason, Cochrane & Owen as cited in Owen, 2010, p. 73).

Self-assessment: A broad term that can be used in different contexts. In this project self-assessment refers to the process where PSTs reflected on their practice during practicum and used evidence to support various claims about professional learning and the attainment of professional teaching standards under investigation.

Teaching standards: Broadly understood as any set of agreed upon “competencies in networks of practice”, involving judgments in contexts (Mulcahy, 2008, pp. 1, 5).
Chapter 1

Overview of Project

Introduction – expectations of graduate teachers

Demonstrating competency through meeting professional standards has become a commonplace expectation in educational systems around the world (Day, 2004, 2007). According to the newly established Australian Institute for Teaching and School Leadership (AITSL)

The National Professional Standards for Teachers are a public statement of what constitutes teacher quality. They define the work of teachers and make explicit the elements of high quality, effective teaching in 21st century schools that will improve educational outcomes for students. (www.teacherstandards.aitsl.edu.au)

Accreditation bodies anticipate that use of professional teaching standards will also enhance teacher professional development and raise the status of teaching. This view is supported by Danielson and McGreal (2000 cited in Tang, Cheng & Mui So, 2006) when commenting on the role of professional standards. They note “a teacher evaluation system that provides maximum opportunities for teachers to play a more active role in self-directed enquiry is more likely to enhance professional learning” (p. 224). However, for many pre-service and beginning teachers the articulation of their teaching practice and the justification of their decisions can be challenging. This is particularly so if there has been a heavy reliance during practicum on seemingly intuitive decision-making and/or imitation of teacher models derived from current or past school experiences without adequate reflection.

Therefore, if teacher education programs are to adequately prepare PSTs for the expected demands of their career, they must assist them in developing skills of structured reflection and facilitating a process of identifying and explaining competencies in teaching practice. Such self-reflection, through the mapping of skills and knowledge, is a critical aspect of developing proficiency in any profession. Schön (as cited in Bouriscot & Roberts, 2006), notes that “reflection-in-action is an essential aspect of educating professionals” (p. 79). Where pre-service or beginning teachers are older and may have had significant experience in another career, for example as a teacher’s aide, or as a parent which is the experience of many Indigenous PST who work as Aboriginal education workers in schools, the knowledge and skills utilised for many years may be undervalued or unrecognised by the PSTs themselves. Thus while these PSTs may demonstrate competency in their teaching, they may not be well-practised in the skills to recognise, name and provide documentation to show how, and in what situations, they meet professional standards.

In addition to skilling PSTs to reflect on teaching practice and identify competencies, teacher education programs are required to strategically and systematically provide experiences and appropriate information and computer technology tools for use in the teaching profession such as those identified in focus areas 2.6 and 3.4 of the National Professional Standards for Teachers (AITSL, 2011). Results from a study administered across 38 Australian universities indicate that there is considerable variation among undergraduate experiences of

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assessment and use of ICT within courses (Ingvarson & Hattie, 2008). This suggests the utilisation of relevant ICTs has not been consistently infused in higher education courses. Despite this, another study, undertaken in the same year using the same universities and cohorts but with a research focus on the use of e-Portfolios, reported that 84% of participants agreed or strongly agreed that using e-Portfolio software assisted them in evaluating and reflecting on their learning journey (Hallam et al, 2008). This experience with e-Portfolios is not unique to Australian higher education students. Students in the United Kingdom (Joyes, Gray & Hartnell-Young, 2010) and the United States have reported similarly disparate findings (Peter, Chevrier, Leblanc, Fortin & Mallette, 2006; Ring & Foti, 2006, cited in Hallam, et al, 2008). Nor are they encouraged to use ICT as a vehicle for systematic reflection on their own learning. Such contrasting results suggest that PSTs are not consistently supported to reflect on how their own use of ICT in their course may act as preparation and practice to use the same technologies in their teaching.

Aboriginal cohorts in pre-service teacher education programs

The absence of Indigenous teachers at all levels of education has been a significant factor in the alienation of Indigenous students from school and in the under-representation of Indigenous students in higher education (Reid, Santoro, Crawford & Simpson, 2009). Although there are significant investments by state employers towards redressing this issue, attempts to build numbers of Indigenous teachers have not been wholly successful. Historically, the national goal of “1000 Indigenous teachers by 1990” was seen as one means of increasing Indigenous participation in higher education, and in the 1980s several institutions developed programs aimed at retraining Aboriginal Education Assistants (AEAs) already working in schools (Reid et al, 2009). Nearly twenty years past the 1990 target date, “there were just 1565 Indigenous teachers in Australian schools” (p. 68). This indicates that the presence of Indigenous teachers in Australian schools is still not prominent.

Both the University of Western Sydney (UWS) and the Australian Catholic University (ACU) have historically provided successful enclave programs marked as Indigenous teacher education, and many graduates from these programs have gone on to achieve success in teaching and leadership positions, as noted above. Yet some graduates from PST education courses, where study was facilitated through residential block mode, report feeling that their pre-service education marked them as different from ‘mainstream’ teachers – even though the content of the degrees is identical. Compounding this, recent research into career pathways of Indigenous teachers has indicated that becoming a teacher remains fraught with difficulty for Indigenous people (Santoro & Reid, 2007) and while the experience and cultural expertise that Indigenous PSTs can draw on as a basis for developing digital pedagogies is an advantage, it is seldom officially recognised and incorporated into teacher education programs.

This project aimed to directly tackle this problem by having Aboriginal PSTs from UWS and ACU collaborate with a number of non-Aboriginal PSTs from Charles Sturt University (CSU) to assess the attainment of professional teaching standards and share such accomplishments through the use of e-Portfolio. The purpose of using e-Portfolio was to facilitate reflection, support inquiry into classroom success and failure, and influence self-
improvement plans. The project’s focus on using digital technologies in assessing professional teaching standards allowed collaborative sharing and support that enabled PSTs to move beyond teaching environments that can often be isolating. Thus, this project aimed to promote consistency of PST preparation and standards of competency across both Aboriginal and other groups of PSTs. Further, the development and sharing of an evidence-based record of PST practice aimed to help all PSTs build and demonstrate the necessary skills and knowledge required for professional teaching accreditation and enhance their familiarity with using digital technologies.

This federally funded learning and teaching project 2011–2012, administered initially by the Australian Learning and Teaching Council (ALTC) now the Office of Learning and Teaching (OLT), enabled a group of academics from three Australian universities to consider these issues and the potential tools available to PSTs to support and develop their skills of self-assessment, reflection, and e-portfolio construction using digital technologies. As the project rationale states:

> The purpose of using e-Portfolio is to facilitate reflection, support inquiry into classroom success and failure, and influence self-improvement plans. The project’s focus on using digital technologies in assessing professional teaching standards allows collaborative sharing and support that enables teachers to move beyond teaching environments that can often be isolating. (Project rationale pp. 1 – 2)

Indigenous teachers are often situated at what Nakata (2004, p. 27) calls “the cultural interface” between Indigenous and western cultures. Often, they are unable to confidently assume the identity of a ‘good teacher’ because of the social practices that construct them always as good Indigenous teachers (Reid et al., 2009). The cultural normativity that successfully completing a teacher education qualification implies for all teachers, and the failure of existing education systems to adequately prepare many Indigenous students for higher education means that this is difficult territory for curriculum and practice in university settings.

The project team strongly believe in the importance of high quality teachers for education and nation building, and the need for all teachers to be skilled in the capacities to work with Indigenous communities and engage students in quality learning. Building on research that focuses on the importance of place-conscious education and of teacher education that acknowledges and works with local communities, the project actively sought to interrelate and build the capacities of PSTs to develop these key educational practices (Green & Reid, 2004; Grunewald, 2003; Johnson, Finn & Lewis, 2005; White & Reid, 2009).

Aims and outcomes of the project

The overall aim of the project was to develop the capacity of a group of Aboriginal and other PSTs to assess, document and share practices and pedagogies that facilitate teaching in schools with a substantial Aboriginal student population. The participating PSTs demonstrated achievement of professional teaching standards (Outcome 1), used digital technologies in constructing an e-Portfolio (Outcome 2), became competent in using a range of pedagogies including digital pedagogies in their professional practice (Outcome 3) and
participated in a professional learning community for sharing teaching ideas and experiences that cater for all primary school students but specifically Indigenous ones (Outcomes 4 and 5). Exemplary practice was generated from the combined expertise of UWS, CSU and ACU academic staff, and from the outcomes of previous ALTC/OLT initiatives such as Practicum partnership: Exploring models of practicum organisation in teacher education for a standards-based profession (Victorian Council of Deans of Education, 2009), Pre-service teacher education partnerships: Creating an effective practicum model for rural and regional pre-service teachers (Ryan & Walta, 2009) and Assessment Futures 2020 (Boud & Associates, 2009).

The project also drew on the ALTC/OLT project, Digital learning communities: Investigating the application of social software to support networked learning (Fitzgerald & Steele, 2008). Curriculum was developed that supported PSTs in using digital technologies in recording episodes of teaching practice and sharing their ideas and experiences in the practicum schools. The PST participants were able to use digital technologies while reflecting on their teaching in practicum schools. Recent policy and research (Johnson, Smith, Levine, & Haywood, 2010) has propelled increasing levels of digital resources into New South Wales (NSW) school contexts. The phrase ‘digital technologies’ was used as a broader term to describe the project’s digital infrastructure. It specifically referred to the communication technologies used to build and maintain the virtual network that allowed the geographically distant PST participants to interact with each other, demonstrate their engagement in a self-study of efforts to improve their teaching, and to form and participate in the community of learners that was the centre of the project.

One outcome of the project was to provide the participating PSTs with the knowledge and skills to encourage reflection on their teaching practice. PSTs involved in the project were able to access support and guidance from academic staff and use the resources developed in the project to make judgements about what evidence best demonstrated their attainment of professional teaching standards.

The project aimed to foster positive values and attitudes towards the use of digital technologies as a means of communication among the three cohorts of PSTs and academic staff supporting them during practicum. The three universities collaborated to construct and deliver a fully resourced teaching curriculum for the PSTs that utilised digital technologies (Fitzgerald & Steele, 2008) and incorporated Indigenous perspectives and local knowledge (White & Reid, 2009; Yunkaporta & McGinty, 2009). Opportunities were provided for the PSTs to operate at the interface between Western curriculum knowledge and Indigenous knowledge, that is, they were encouraged to draw heavily on local knowledge of land and place and strengthen relationships between the school and community. The project aimed to develop and publish an online resource about local Indigenous communities around NSW so that all participants may share and continue to use their knowledge and skills post-graduation within a professional learning community that promotes Indigenous community participation in schools and further higher education (see Chapter 8).

The intended outcomes for the project were:

1. A clearly delineated procedure for assessing PST achievement of professional teaching standards in practicum settings.
2. Coursework material to assist PSTs to document their learning and teaching practice through the use of digital technologies in constructing an e-Portfolio.

3. Development of PST capacity to design, deliver and evaluate a range of pedagogies, including digital, in urban/regional and rural/remote practicum schools with a high Indigenous population.

4. Establishment of inter-university regional clusters of PSTs engaged in cooperative learning activities via video-conferencing and/or Connected Classroom technologies to share digital artefacts used in the construction of e-Portfolios.

5. Development of a professional connected community for teacher educators, beginning and continuing teachers in different geographical locations which will become an online resource for highlighting quality teaching practice and promoting Indigenous community participation in schools and in further higher education.

The intended deliverables were:

- A website for developing a learning community of teachers working in communities with high Indigenous populations to provide public information about the project. The website will provide secure access for PSTs and lecturers from UWS, ACU and CSU to support learning within the practicum, together with sample materials and a discussion group.
- A fully resourced learning module on how to use digital technologies to i) provide evidence of professional teaching standards through e-Portfolio construction and ii) incorporate Indigenous perspectives and be made available to all universities across Australia.
- Guidelines for approaching inter-university practicum assessment practices that address professional teaching standards.
- Guidelines for inter-university support of Aboriginal and other PSTs in a range of practicum settings – remote/rural and regional/urban.
- Recommendations for improved assessment practices for PSTs via e-Portfolio

Conference papers (e.g. at Australian Association for Research in Education (AARE), the Australian Teacher Education Association (ATEA) and Higher Education Research and Development Association of Australia (HERDSA) and journal articles in Australian journals such as *The Australian Journal of Education* and *The Australian Educational Researcher* and in international journals such as *Teachers and Teacher Education* and *Asia Pacific Journal of Teacher Education.*

Conceptual framework and approach

Working towards meeting the graduate teacher professional standards was viewed as a form of self-study where PSTs undertook planned study of their practice with a view to improving it through cycles of action-research (Bullough & Pinnegar, 2001; Samaras & Freese, 2009). Pre-service teachers collected data about their teaching during practicum, analysed their own practices and assessed them against the benchmarks provided by the graduate teacher professional standards. They then systematically planned, implemented, evaluated and reflected on their attempts to improve their performance. This involved a detailed process of self-study while developing capacities for judgement and evaluation of practice (Boud & Associates, 2009). Further, to meet the project aim to enhance PSTs’ use of
digital technologies in assessing professional teaching standards, the participants used digital technologies to document their knowledge and to reflect on how they used this knowledge in their teaching practice during practicum. The establishment of a professional learning community among the participating PSTs and academic staff from the three universities facilitated this self-reflection process.

Working across institutions enabled collaborative practice and assisted in building professional learning communities. This highlighted for new professionals that there are many ways of demonstrating professional competence at a particular standard, as evidenced across the range of e-Portfolios produced. The significance of doing this ‘online’ to develop experience and confidence in the use of digital communications and to build community was particularly clear for the PSTs in rural communities. Such communities may have large populations of Aboriginal students and teachers may lack ready access to an extended professional community. The high stakes nature of successful accreditation outcomes for final year PSTs, and particularly for Aboriginal PSTs, increases the primacy of structured support for effectively gathering evidence to support the attainment of standards. Importantly, this project stressed the value of collaboration with peers, reflecting, as Larsen (2007) suggests, that self-study research undertaken by a group “offers the possibility of becoming a tool for collaboration and community building” (p. 173). The development of an e-Portfolio was therefore of considerable benefit in generating confidence amongst the PSTs in the pedagogical use of digital technologies.

In the case of teacher accreditation, self-study methodology is embedded in the process of collecting artefacts and data and reflecting on the standards that must be demonstrated. In this, the project provided a group of PSTs, as members of an online learning community, with an opportunity to engage in an action research cycle of strategic inquiry into their practice while engaging with the local community. To ensure connectedness, relevance and respect for local Aboriginal cultures, the PST participants needed to be aware that “action research is more about what a teacher does, and not so much about who the teacher is” (Samaras & Freese, 2009, p. 5). Thus, blending action research into the development of digital resources for PST teaching programs added depth and validity to the research processes by supporting participants to take note of local differences and reflect on the breadth of examples and illustrations provided in terms of the graduate teaching standards.

Self-study research is more than individual reflection on one’s own practice. When new teachers embrace their accreditation process as one of self-study, they also share their knowledge. This helps to develop their knowledge base in teaching and learning and support their judgements about the quality of their teaching. Whilst the Australian National Standards for Teachers (2011) embed a process of communication, especially through Standard 6 for each of the accreditation levels, participating PSTs were encouraged by their academic mentors to publish their work using the digital format of the e-Portfolio so that it could be used as a resource beyond the immediate site of practice. The methods that informed this process and underpinned the project are detailed in the following chapter.
Chapter 2

Methods and Processes

The project team undertook this predominantly qualitative research project to evaluate the support provided to Aboriginal and other PSTs in assessing professional teaching standards. Such accomplishments were shared through the use of digital technologies across three stages of planned action over 18 months. Stage 1 was of four months duration; Stage 2, eight months and Stage 3, six months. The project was approved by UWS, CSU and ACU Ethics Commissions.

Project Team and Management

Team members from the three universities met throughout the project, both face-to-face and via conference-link, to prepare and implement the project and track its progress. The project team shared the management of the project across sites, although the Project Officer was housed at one institution (UWS). Each institution ensured continuity of staff commitment, so that at least two staff from each institution maintained involvement over the 18 months of the project. The Project Leader managed the cross-institutional collaboration and commitment. All three institutions had a strong commitment to Indigenous education and collaborated throughout the project to enhance its delivery.

Team members met regularly either in Sydney or Bathurst or at a mid-way residential location in Blackheath for longer meetings. Potential problems were prevented through clear definition of roles and responsibilities and through negotiated consensus amongst the project team.

Project Reference Committee

A Reference Committee of Aboriginal and other educators was established comprising individuals with expertise in current developments in teacher education and Indigenous education. Dr Josephine Ryan, part of an ACU team involved in an ALTC/OLT teacher education collaboration with La Trobe University that is focussed on practicum partnerships with schools in remote/rural areas, offered insights and assisted the team to extend its thinking beyond the NSW context. Professor Toni Downes, Dean of Education at CSU and an expert in the field of technology education, provided guidance in this area. Associate Professor Berice Anning, Dean of Indigenous Education at UWS, Professor Jeannie Herbert, Professor of Indigenous Education at Charles Sturt University, Ms Wendy Nolan, Director of the Centre for Indigenous Studies at CSU and Mr Dean Duncan, Coordinator of Weemala and Representative of the ACU Centre for Indigenous Education and Research, provided stewardship and oversight of the project in terms of Indigenous knowledge. Mr John Healy represented the NSW Institute of Teachers, Ms Fiona Conroy, from the NSW Department of Education and communities (NSW DEC) Training and Development branch, and Ms Sue Dickson and Ms Julie Selkirk, from the Catholic Education Offices (CEO) of Bathurst and Parramatta Dioceses respectively, provided guidance and feedback in relation to teacher mentoring and development.
Participants

The project participants were recruited from three different university primary teacher education courses. The Aboriginal PST participants were in their final year from ACU and UWS while the CSU PST participants were from their third year. This discrepancy was not the intention of the original project design but resulted from differences in practicum timing and study commitments of the final year CSU PSTs. All PSTs had some experience teaching in rural primary school contexts with substantial Aboriginal student populations. A comparison of the PST participants from the three universities is summarised in Table 1. Across the 18-month period of the project, up to 55 undergraduates were involved in different aspects of the process and provided feedback: some for the whole 18 month period, others only for 12 months before graduating at the end of 2011.

Table 1: Comparison of University Project Implementation: ACU, UWS and CSU

<table>
<thead>
<tr>
<th></th>
<th>ACU</th>
<th>UWS</th>
<th>CSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST were of Aboriginal background</td>
<td>PST were of Aboriginal background</td>
<td>PST were not of Aboriginal background</td>
<td></td>
</tr>
<tr>
<td>4th year students</td>
<td>4th year students</td>
<td>3rd year students</td>
<td></td>
</tr>
<tr>
<td>The course unit that involved the project was compulsory</td>
<td>The course unit that involved the project was compulsory</td>
<td>PSTs in the project were volunteers</td>
<td></td>
</tr>
<tr>
<td>e-Portfolio an Assessment item in this unit</td>
<td>e-Portfolio an Assessment item in this unit</td>
<td>e-Portfolio was not part of an assessment item</td>
<td></td>
</tr>
<tr>
<td>Volunteers for the research component</td>
<td>Volunteers for the research component</td>
<td>Volunteers for the research component</td>
<td></td>
</tr>
<tr>
<td>e-Portfolio due at the end of the year of project participation</td>
<td>e-Portfolio due at the end of the year of project participation</td>
<td>e-Portfolio due at the end of 4th Year</td>
<td></td>
</tr>
</tbody>
</table>

Digital technologies

Digital technology played an important role in the project in facilitating communication via video-conferencing and Skype™ to bring PSTs and academic staff together during the implementation of the project. A variety of information and communication technology (ICT) tools were used in the project. These included tutorial and lecture instruction and facilitation (face-to-face and video-conferencing), software manuals written and provided to all PSTs; free provision Weebly Pro (© 2012 Weebly, Inc.), a software program, to construct e-Portfolios, ongoing telephone and Skype™ contact for individuals and group support and opportunities to collaboratively and individually reflect and critically evaluate peers’ work in progress and finished products.

Three main ICT tools used in the project to communicate with PSTs when they were not on campus: video-conferencing, Weebly Pro and Skype™. Video-conferencing was a reliable tool when bringing together up to 20 PSTs plus academics (per conference) for discussion and instruction. Whole group visibility, use of PowerPoint and focus on specific individuals were all easily achieved with video-conferencing tools. The decision to use Weebly Pro as the e-Portfolio program was due to its ease of use and the way in which users can exercise...
significant flexibility without needing to know a great deal about creating websites. While Weebly Pro has associated costs, basic Weebly is ‘open source’ and is therefore available to PSTs post-graduation. In Weebly Pro, hyperlinked menus that clearly display the contents of e-Portfolios, easy uploading of documents, simple embedding of PDFs or photos, and opportunities to use slideshows, video footage, sound files, and other artefacts provided the PSTs with many avenues to demonstrate competency. Skype™ for long distance individual and small group discussions was selected because this program was well known, free to download, and relatively easy to use. However, its reliance on broadband connections was a weakness in rural and remote areas with intermittent connectivity resulting in conversations reduced to ‘audio only’. In such instances, telephone conferencing was more efficient and less frustrating but reduced the capacity of participants to utilise and respond to non-verbal communication.

Stage 1

Stage 1 was the initiation phase of the project. Once funds were received from ALTC/OLT, Caroline Hatton was appointed as the Project Officer to provide administrative support, facilitate meetings, transcribe data and manage documentation. Project Team meetings with academic staff from UWS, ACU and CSU took place to develop shared practicum documentation and to select the particular Standards and Focus Areas at Teacher Graduate level against which all participating PSTs were assessed for graduation. Appropriate assessment strategies were developed to allow PSTs to demonstrate graduate teaching standards. The team examined a range of potential ICTs for student use in the production of their e-Portfolios, including those already used by each institution. The decision to work with Weebly was made on the basis of ease of use and flexibility, particularly in relation to students uploading and amending information. A detailed evaluation plan was also developed during this stage under the guidance of an expert evaluator, Dr Paul Chesterton.

Minutes for all team meetings document the issues and actions arising for evaluation purposes. A shared project website, www.badanami.weebly.com was initiated. During this stage, team members from each institution grappled with the challenge of how to best team-up PSTs across the three institutions and four campuses given CSU team members were located at Bathurst and Dubbo. A cluster model (see Figure 1) was developed that enabled CSU, Bathurst PSTs to team up with PSTs from ACU (Clusters 1-4) and CSU Dubbo PSTs would team up with UWS PSTs (Clusters 5 & 6). There were two cohorts of PST from one university thus enabling two dyads of student groupings to be formed; ACU grouped with CSU Bathurst (Group 1) and UWS grouped with CSU Dubbo (Group 2).
Stage 2

Stage 2 began with two one-day conferences for participating PSTs in May 2011: one between CSU-Bathurst and ACU and the second between CSU Dubbo and UWS. These conferences involved the full implementation of the inter-university rural/regional and urban clusters with PSTs and academic team members from the three universities working together to facilitate communication and self-assessment. The strategies for assessing professional teaching standards using digital technologies developed in Stage 1 were implemented and the shared project website was extended to include PSTs and academic team members. At these conferences, strategies and guidelines were introduced to PSTs to assist them in the development of their e-Portfolios. These strategies and guidelines included ways to collect evidence to demonstrate knowledge about local communities and the attainment of various professional teaching standards during practicum such as the use of photographs, use of videos, work samples, teacher feedback/reports, and lesson plans.

The two conferences were conducted using digital technologies. The conference program included a range of workshops on the use of digital technologies, ethics and cultural awareness, action research methodology and professional teaching standards. The participating PSTs from CSU, Bathurst and ACU, Strathfield met first and were connected using video-conferencing facilities provided by CSU and ACU. The conference was repeated two weeks later with PSTs from CSU, Dubbo and UWS, Bankstown. At these conferences, final year B.Ed. Aboriginal PSTs from ACU and UWS met with third year PSTs from CSU to share their teaching experiences. A practicum timeline was developed and the locations of practice settings were identified. Inter-university clusters were set up based on geographical locations and ties to Aboriginal communities (see Figure 1). During the conferences, the PSTs were taught and supported using a combination of inter-university groups as well as small group or individual instruction. Aligning university study calendars, as well as practicum and on-campus residential was a challenge that required some flexibility in delivery and approaches across the dyads.

The PSTs from the three participating universities undertook practicum placements at different times from June to September, 2011. The PSTs used Skype™ to showcase aspects of pedagogy while on practicum and to share their reflections with peers and academic team members in regard to evaluating teaching activity against the professional teaching standards. However, while not all PSTs were able to participate in the online discussion, practicum visits occurred twice in 2011. The first visit involved PSTs from UWS while undertaking practicum placements in August. The second visit involved PSTs from CSU while undertaking practicum placements in November.

A third and final one-day conference was held for participants in September 2011 for CSU, Bathurst and ACU PSTs and in October 2011 for CSU, Dubbo and UWS PSTs. This conference was held at two sites on each occasion (Bathurst and Strathfield; Dubbo and Bankstown) linked by video-conference facilities. The conference was an opportunity for the PSTs to share their practicum experiences and show elements of their e-Portfolios. This conference was a culminating activity and a time to celebrate the achievements of the PSTs. It was also a time to evaluate the success of the project and plan for the future development and nature of an online resource for promoting Aboriginal community participation in schools and further higher education.
The finished product of the project for participants was an e-Portfolio that consisted of a professional profile, a teaching philosophy, and seven web pages for each of the seven Professional Standards for Teachers, a focus area and a descriptor with justification regarding the selection of included artefacts which were either embedded or hyperlinked. The artefacts were accompanied by annotations showing precisely what part of the artefact was relevant and what particular standard was demonstrated.

The PSTs’ e-Portfolios were shared between participants and academic staff at video-conferences between the paired cohorts of student groups. Comments from participants in these video-conferences were recorded and the final submission of e-Portfolios, via Weebly, served as evidence to show how well the PSTs were able to demonstrate their teaching competency and effective use of digital technologies in their most recent practicum. The e-Portfolios were examined and assessed across several areas including the suitability of artefacts to support the selected standards, the clarity of explanations and justification of artefacts, the use of Microsoft Word tools to highlight, emphasise, and pinpoint the relevant part of the artefact, and the innovative and professional use of Weebly Pro to showcase professional skills and knowledge. As students at CSU Bathurst and Dubbo were participating in the project as pre-professional development in addition to their regular course work, their e-Portfolios were not submitted for assessment.

Stage 3

The third stage completed the project and involved the evaluation of the project and the writing of the final report. The PSTs who had participated in the project in 2011 were invited to attend workshops held simultaneously in March 2012 at Dubbo, Bathurst and Sydney. The workshops ascertained, through focus groups, what further support the PSTs and project team members required to maintain the virtual learning community established in Stage 2 of the project. In 2012, the three universities incorporated this approach into their ongoing programs and at the completion of the Project each committed to continue to implement the regional/urban clusters with a second group of PSTs in their final year.

Data Collection and Analysis

Data collection and analysis was primarily qualitative. Information was gathered from observations during tutorials, discussion surveys after instructional sessions and analysis and assessment of PST work samples – primarily from the e-Portfolios. As noted previously, the project adopted an action research approach to enable the PSTs to systematically and intentionally research their practice in the three institutional contexts. This approach promoted the sharing of reflections across the teams and helped to direct and facilitate improved practice for the PSTs (Cochran-Smith & Lytle, 1990; Oberg & McCutcheon, 1987).

Survey data consisted of open-ended questions and Likert style statements that assisted in determining how well the PSTs absorbed and understood information about professional teaching standards, and the ways in which they could collect and use practicum artefacts and software tools to demonstrate competency at the Graduate Teacher level. Responses
were tallied and open-ended answers were transcribed in full. The data from the surveys enabled the inter-university team to modify and confirm strategies used for duplication in 2012. Summarised notes from the Skype™ and telephone conversations (Strategy 2 from Stage 1) were used to determine those areas where PSTs found it hard to make connections between what they were producing on practicum and how it could be used as evidence for particular standards.

Table 2: Data collection process aligned to project outcomes

<table>
<thead>
<tr>
<th>Project Outcome</th>
<th>Data sources</th>
<th>Possible data gathering approaches</th>
</tr>
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<tbody>
<tr>
<td>A clearly delineated procedure for assessing PSTs’ achievement of professional teaching standards in practicum settings.</td>
<td>- Inter-university curricula for the development of strategies for assessing professional teaching standards. - e-Portfolios.</td>
<td>- Document analysis. - Focus groups of cluster participants and PSTs.</td>
</tr>
<tr>
<td>Conference workshop material to assist PSTs to document their learning and teaching practice through the use of digital technologies in constructing an e-Portfolio.</td>
<td>- Inter-university learning guides for documentation of professional standards. - Conference workshop materials. - Conference evaluation data. - PSTs’ e-Portfolios.</td>
<td>- Document analysis. - Focus groups of conference participants. - Individual conference evaluation sheets. - Review of PSTs’ e-Portfolios.</td>
</tr>
<tr>
<td>Development of PSTs’ capacity to design, deliver and evaluate a range of pedagogies including digital in urban/regional and rural/remote practicum schools with a high Aboriginal population.</td>
<td>- PSTs’ e-Portfolios. - Conference presentations.</td>
<td>- Review of documentation of practice via e-Portfolios. - Review of strategies and practices presented at conferences. - Focus group interviews.</td>
</tr>
<tr>
<td>Inter-university regional clusters of PSTs who engage in cooperative learning activities via video-conferencing technologies to share digital artefacts used in the construction of e-Portfolio.</td>
<td>- Web-based technologies used to communicate in clusters. - Communication strategies. - Participants: PSTs, academic team members.</td>
<td>- Focus groups within geographical clusters.</td>
</tr>
<tr>
<td>A professional connected community for beginning and continuing teachers which will become an online resource for highlighting quality teaching practice and promoting Aboriginal community participation in schools and in higher education.</td>
<td>- The professional learning community platform.</td>
<td>- Review of frequency and breadth of use. - Focus groups within geographical clusters.</td>
</tr>
</tbody>
</table>
Evaluation

The ALTC/OLT evaluation framework was integral to the development, planning and final evaluation of the project. The evaluation focused principally on the processes and outcomes (both short-term and long-term) of the project, following the detailed evaluation plan developed during Stage 1. The evaluation processes within each stage are outlined below.

Table 3: Evaluation processes used in the project

<table>
<thead>
<tr>
<th>Project stage</th>
<th>Broad evaluation foci</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 1:</strong> Planning and refining evaluation tools as the three participating institutions develop an understanding of the scope of the environments in which the project is to be conducted.</td>
<td>• Practicum documents and guidelines from the three institutions.</td>
</tr>
<tr>
<td></td>
<td>• ICT resources available in all participating institutions and schools.</td>
</tr>
<tr>
<td></td>
<td>• Community information and records.</td>
</tr>
<tr>
<td><strong>Stage 2:</strong> Refining evaluation processes within two key areas: practicum experience and project conferences.</td>
<td>• Development and effectiveness of inter-university geographical clusters.</td>
</tr>
<tr>
<td></td>
<td>• Communication resources and strategies at inter-university cluster levels – online peer feedback.</td>
</tr>
<tr>
<td></td>
<td>• Artefacts relating to Aboriginal cultures and use of ICT developed during practicum.</td>
</tr>
<tr>
<td></td>
<td>• Digital documentation of professional teaching standards.</td>
</tr>
<tr>
<td></td>
<td>• Effectiveness of the conferences in developing skills, knowledge transfer and self-reflection.</td>
</tr>
<tr>
<td><strong>Stage 3:</strong> Evaluation of the tangible products of the project focusing on the sustainability of professional learning communities with graduates.</td>
<td>• Inter-university learning guidelines for digital documentation of professional teaching standards and assessment guidelines.</td>
</tr>
<tr>
<td></td>
<td>• Curriculum and processes for sharing teaching ideas and experiences.</td>
</tr>
<tr>
<td></td>
<td>• Web-based professional learning community.</td>
</tr>
</tbody>
</table>

During each stage of the project, the strategies were reflected upon and modified when necessary for future use, for example, the evaluation of the project led to changes in the reflection scaffolds developed in Stage 2 and then used again in revised form in Stage 3.

The findings from the project have been disseminated through various avenues (see Chapter 8). In particular, a descriptive evaluation of the professional learning community created in this project and strategy papers outlining ways in which PST can self-assess their competencies in professional teaching standards and use digital technologies to support documentation in e-Portfolios have been presented at different conferences.
Chapter 3

Literature Review

A review of the existing literature identified existing good practice and issues of concern in relation to teaching standards and assessment. The literature, originating from Australia, New Zealand, America, the United Kingdom and Hong Kong guided the design and implementation of the project. Literature arising from studies in Malta and the United Arab Emirates also informed the reporting of ways digital technology and cultural awareness contributes to teaching standards assessment. Concepts explored in this literature review focus on assessment of professional teaching standards during the practicum experience. Three areas of particular focus are digital technology, cultural awareness and competence and reflective practice. The theoretical framework for the Literature Review is represented in the following diagram.

Figure 2: The Literature Review Framework

The literature review was guided by the following questions:

- Where are professional teaching standards being assessed and by whom?
- What forms and platforms are being used to evidence professional teaching standards?
- What processes facilitate or hinder the assessment of teaching standards?
- How is digital technology being used to support evidencing processes involved in the assessment of teaching standards?
- To what extent does standards assessment, with or without digital technology, aid teacher effectiveness, teaching quality and learning outcomes?
- How are standards related to supporting Aboriginal education being assessed by pre-service teachers?
Assessment of teaching standards

Professional Teaching Standards
The Australian Institute for Teaching and School Leadership (AITSL, 2011) states that “Internationally and locally, education systems are developing professional standards for teachers to attract, develop, recognise and retain quality teachers” (p. 1). Barber and Mourshed, (as cited in AITSL, 2011), emphasise the impact of standards assessment: “High performing school systems, though strikingly different in construct and context, maintain a strong focus on improving instruction”, using standards to effect “direct impact upon student achievement” (p. 1). Australian federal, state and territory governments, who provide 90% of the education funding in Australia and currently employ the majority of teachers, have articulated an aspiration for the coming decade in the Melbourne Declaration on Educational Goals for Young Australians, 2008. The Melbourne Declaration values the quality of teaching at all stages of a teacher’s career; “All Australian governments, universities, school sectors and individuals have a responsibility to work together to support high quality teaching and school leadership, including by enhancing pre-service teacher education” (p. 11). The National Professional Standards for Teachers translates this goal into action “by providing a framework which makes explicit the knowledge, practice and professional engagement required across teachers’ careers....by which teachers can judge the success of their learning and inform their self-reflection and self-assessment” (Yinger & Hendricks-Lee in AITSL, 2011, p. 2).

In addition to the Australian National Teaching Standards, all states and territories of Australia implement professional standards that are the benchmark for teacher registration and accreditation. The Office of Schools Plan 2009-2011 (NSW Department of Education and Training (DET)) specifies the strategy of “accessible registered professional learning available state wide across all elements of the professional teaching standards” as indicated by “increased number of teachers accredited with the NSW Institute of Teachers (NSW IT)” to achieve the “Priority Area of Teacher Quality” (p. 9). A requirement of all Australian registering and accrediting bodies is that standards are to be met by evidenced-based practice, no matter which standards framework is employed. Similarly, demonstrating competency through the meeting of professional standards has become a commonplace expectation in educational systems around the world (Day, 2004, 2007).

Conceptual framework for teaching standards: Assessment at pre-service, beginning, accomplished and lead teacher levels

References to professional teaching standards usually relate to a framework of standards that are often seen as generic frameworks, although different countries and school systems have variations in the descriptions of the actual standards and the terminology of accreditation stages. The Australian National Standards, for example, has a stronger alignment between the scales of Graduate and Proficient teacher in relation to technology standards than the NSW IT Professional Teaching Standards does between the scales of Graduate and Competent teacher. As with all static representations of practice, standards frameworks are limited in terms of their temporal context. This includes the rapidly changing developments in ICT, and while not every school system implements the processes to achieve every purpose, standards frameworks have the capacity to do so. In the literature
reviewed for this study, teaching standards are broadly understood as any set of agreed upon “competencies in networks of practice”, involving judgments in contexts (Mulcahy, 2008, pp. 1, 5).

As expressed in the literature, the purposes of professional teaching standards include:

- reference for professional development; beginning teacher licensure; advanced certificate of accomplished teachers (Darling-Hammond, 2001; Ingvarson & Kleinhenz, 2003);
- provision of a policy mechanism for making explicit features of quality teaching, rubrics “to spell out the forms of knowledge, performance and dispositions that teachers are to apply” (Tang, Cheng & Mui So, 2006, p. 224); and

Assessment of standards
At the present time, whether Australian teachers have or have not met teaching standards is assessed by a process whereby teachers collect, reflect on, annotate and submit valid and reliable evidence of their teaching practice to an accrediting body. Varied responses to this process, both positive and negative, are presented in this review yet increasingly typical is the type of comment made by Tracz et al (cited in Ingvarson & Hattie, 2008), “Teachers who have been through the process of assembling evidence about their teaching and applying for...certification routinely rate the process as the most beneficial form of professional development they have ever had” (p. 13).

Pre-service teachers (PST)
This term relates to students engaging in university teacher training courses that include supervised field experience or practicum periods in schools. It is a term that is consistent used across the literature encountered in this review and it refers to those who are expected to meet the standards for the Graduate Teacher. Bouriscot and Roberts (2006) in a paper about English medical graduates found that for the medical students, differences and inconsistencies in the evidencing of graduate standards lay not with standards about knowledge but with standards in the areas of communication, interpersonal skills and professionalism (p. 74). Their work asks a question that, when adapted to the context of this study, is pertinent for the teaching profession and Australian PSTs: Are there differences in the concept of the Graduate Teacher from different Australian universities?

Beginning teacher
The term beginning teacher is a generic term commonly applied to teachers in the first three to five years of their career. In NSW, since 2004, a beginning teacher has been called a New Scheme Teacher (NST). This term differentiates those teachers subject to standards evidencing in their accreditation from those whose accreditation was based on the previous certification according to school-derived criteria. In Victoria, the term used for beginning teachers is Provisional Teacher while The National Professional Standards for Graduate Teachers refers to teachers in their initial years of teaching.

Lead teacher/ Highly accomplished teacher
“Lead teachers are recognised and respected...as exemplary teachers. They have demonstrated consistent and innovative teaching practice over time...They lead processes”
(AITSL, 2008, p. 7). The NSW IT describes the stage of Professional Leadership with terms such as “outstanding”, and “committed educators who can articulate a vision” (NSW IT, 2008, p. 1). Similarly, Highly Accomplished teachers “are recognised as highly effective, skilled classroom practitioners” and analysts who work “independently and collaboratively” to improve practice (AITSL, 2008, p. 6). These characteristics are similar to those cited in the NSW IT definition of Professional Accomplishment, which also uses terms such as “in-depth” and “advocates” to describe the Accomplished Teachers’ knowledge, professional and community interactions (NSW IT, 2004, p. 1). Similar definitions of accomplishment are held in South Australia and Queensland (Palmer, 2006). In Western Australia, an accomplished teacher is referred to as a Level 3 Teacher; in the Northern Territory, as a Teacher of Exemplary Practice; in South Australia and in Queensland Catholic schools as an Advanced Skills Teacher. The American National Board for Professional Teaching Standards (NBPTS), in its definition of accomplishment, includes “think systematically about their practice and learn from experience” (Palmer, 2006, p. 2). In England, the term used is Threshold Teacher, while in Scotland, accomplished teachers are termed Chartered Teachers (Ingvarson & Hattie, 2008).

Evidencing standards – problems, hindrances and responses

A number of policy documents and guidelines for teacher registration, teacher accreditation and accreditation at higher levels of accomplishment indicate some consistency among systems and registering bodies in the process of evidencing standards for Beginning Teachers, to the following extent:

- resources to guide teachers as to the amount and type of documentation required in evidence;
- guidelines for evidence to arise from the normal practice of a teacher and include working documents wherever possible.

There were inconsistencies however in the nature, resourcing, training and timeframes for mentoring programs conducted in individual schools and by school systems to support the accreditation of Beginning Teachers and their Mentors. McPhee (2010), in a five year study, explored the success of The Supporting Provisionally Registered Teachers (PRT) Program, developed by the Victorian Institute of Teachers (2011) and found:

While the value of the evidence based process was affirmed at this early stage, caution was very much required. The positive feedback was tempered with a degree of unease and resentment from some PST and mentors about:

- An increase in stress and workload;
- duplication with performance review processes;
- the process being an ‘add on’ to what was already a busy year; and
- If working as a casual relief teacher, not having a pathway to gather evidence of practice for full registration (p. 5).

In 2011, the NSW Teachers’ Federation identified problems between the accreditation processes for New Scheme Teachers (NST) and the NSW IT accreditation processes. These reflected, and added to the concerns identified in the Victorian study:

- The cost to NST of courses and registration to gain and maintain accreditation;
• Lack of training and development opportunities; and
• The bureaucratic process of logging accreditation is time consuming. It increases workload and takes teachers away from their classes and productive work (NSW Teachers Federation, p. 24).

Studies from England, undertaken in the early years of standards based assessment, and reported in Ingverson and Hattie (2008), show that “few teachers believed the process of applying for the Threshold had any beneficial effects on professional development and most said it had lowered teacher morale” (p. 12).

In contrast, in 2004, 51% of Beginning Teachers surveyed in Victoria claimed the accreditation process had helped them “improve professional knowledge and skills”. In 2008, 74% of the 2008 cohort of Beginning Teachers claimed “as a result of gathering my evidence ... I have supported the development of my teaching knowledge and practice.” When asked to respond to the statement, “As a result of completing the Victorian Institute of Teachers standards and professional learning program I am more likely to stay in teaching”, 68% of the 2008 cohort agreed, compared with 28% in 2004.

The longitudinal data from this study demonstrates that professional teaching standards assessment can “promote and guide professional learning ... and support development of professional practice”, thereby increasing the “likelihood of producing a strong, reflective teaching workforce” (McPhee, 2010, pp. 6-8). This is supported by an extensive list of educational authors from Australia, New Zealand and the United States, as cited in Tang, Chen and Mui So (2006), and includes the comment by Danielson and McGreal (2000, cited in Tang, Cheng & Mui So, 2006) that professional standards facilitate teachers to play “a more active role in self-directed enquiry which is more likely to enhance professional learning” (p. 224-226).

Research also suggests the accreditation process may be made less onerous through the use of digital technology to assist in presenting, communicating and storing evidence. As a result of the Victorian study, for example, the option of an action research focus has been provided by the Victorian Institute of Teachers:

An emphasis on collegial and reflective practice...The Institute’s annual evaluation provides compelling evidence that teachers increasingly are using standards as a tool for reflection...The standards through an evidenced based process have in fact given teachers a language that gives description to teaching practice. The flow on effect for Beginning Teachers has been a breakdown of the culture of isolation to one that provides more opportunities for collegial interaction. (www.vit.vic.edu.au)

While much has been written about the value and problems with evidencing standards, there is very little research that directly relates to ways PSTs can be supported to evidence the Graduate Standards and be prepared for the vital process of accreditation in the first busy year of their teaching. In 2002, prior to widespread mandatory accreditation of teachers using standards, Masingila and Doerr (2002), “investigated how multimedia case studies of practice can support pre-service teachers in making meaning of complex classroom experiences” (p. 235). This methodology involved reflecting on a case study of a veteran mathematics teacher, spanning lessons over four days, which were videoed and
used with the teacher’s journal and videoed comments. This case study was effectively transferred to support PSTs in evidencing standards. Nine participating PST, having completed their practicum, compared their own field experiences with those of the case study teacher. This particular approach established that a multi-media case study can be a site for investigation, analysis and reflection by PSTs to help them compare “their own emerging practice and the ways in which they could connect the case study teacher’s practice to their own practice” (p. 235). Thus suggesting PSTs could employ multimedia to evidence professional learning and frame their self-reflection, using their perspectives on common practices to highlight some of the dilemmas and tensions found in teaching. Similarly, Ingverson and Hattie (2008), report on studies by Tracz, Sienty and Mata (1995) and Tracz, Sienty, Todorov, Snyder and Takashima (1995) on the ways videotaping facilitated evidencing of standards found

Videotaping their (teachers’) teaching and analysing student work made them more aware of how to organise teaching and learning tasks, how to analyse whether and how students are learning and how to intervene and change course when necessary. (p. 37)

Other literature suggests that self-study research undertaken in a group “offers the possibility of becoming a tool for collaboration and community building” (Larsen, 2007, p. 173). Evidencing standards through an action learning cycle that incorporates a detailed process of self-study develops capacities for judgments and evaluation of practice (Boud & Associates, 2010; Bullough & Pinnegar, 2001; Samaras & Freese, 2009). Sadler (1987 cited in Tang, 2008), argues that formative assessment helps “to foster the development of self-assessment capability … [and] is important for learners to make judgments of their own work, so as to make sense of their own learning and self-monitoring” (p. 20).

Assessment of Standards – the progress map and field experience

In addition to the use of methods such as video, case studies and action learning, self-study and reflection about standards has been conceptualised utilising the tool of a Progress Map. Tang (2008), in a four-year research study in Hong Kong, developed the Progress Map for use in “field experience assessment of pre-service teachers’ performance in the teaching practicum” (p. 17). Tang used the Progress Map as a reference tool for individual teachers to locate their own stages of professional maturity and plot their own competency profiles as they progressed from Beginning to Threshold, to Advanced Novice to Competent Teacher during the course of their teacher training. Like the standards used in Australian systems, the Progress Map includes descriptors for each stage of development. In Tang’s three domains of i) professional attributes, ii) teaching and learning and iii) involvement in the educational community, PSTs located themselves on a continuum to indicate “where I am and where I want to go” (p. 21). The teacher supervisors and mentors worked with the PSTs to make judgments and chart the level of performance in the practicum against the standards.

Tang (2008) and others also identify some limitations to self-assessment of professional standards. Namely, the potential dangers of:

- engendering a “technical-rational approach to teaching...without the substance of
good teaching” (Tang, 2008, p.23); 
- encouraging PST “obsession with...a list of discrete teacher behaviours/activities in a single lesson” (Tang, 2008, p.23); 
- concerns about fairness “of the same set of assessment criteria applied across different contexts of teaching and by different supervisors” (Tang, p. 24; Darling-Hammond, 1992 cited in Ingvarson & Hattie, 2008, p. 50); 
- “the incompatibility of standards assessment with the holistic nature of teaching and complexities of assessing professional competence” (Tang, 2008, p.27); and 
- the “perils” of the application of standards assessment “in high-stake summative assessment” (Tang, 2008, p. 27).

These concerns were raised earlier by Tang, Chen and Mui So (2006) and also by others, including Sachs who noted, standards assessment “constitute[s] a source of pressure for uniformity within a highly regulated environment rather than a scaffold for professional development” (Draper, O’Brien & Christie, 2004; Mahony & Hextall, 2000; Sachs, 2003, p. 225). Despite the problems of “manageability” of the Progress Map instrument and the lack of “time availability for reflection and conferencing” that often besets PSTs during practicum, Tang (2008) confirms the value of the Progress Map in formative standards assessment and as a “conceptual reference for professional development...sustainable improvement in education and long-term capacity building of the teaching force” (p. 27).

Evidencing standards using portfolios and vignettes – benefits and tensions

Darling-Hammond (cited in Ingvarson & Hattie, 2008) outlines the benefits of using portfolios and vignettes to evidence standards. Portfolios provide a structure for showcasing the material that evidences standards. A vignette is a strategy for tying reflective commentary to specific, contextualised teaching events and professional standards. Darling-Hammond explains vignettes

[Vignettes] provide vivid descriptions of teachers enacting standards...by closely resembling richly described cases that incorporate context and illuminate the teacher’s capacity to transform knowledge into decisions in distinctive situations...not only what they do but how they reason their way to each decision (pp. 34-35).

A portfolio and a series of vignettes enable a teacher, at whatever stage of accreditation, to take a long-term view and document practice-based evidence over time and with specific foci; “These strategies for tying commentary to specific, contextualised teaching events provide examiners (accreditation assessors) with information regarding the rationale for curricular and pedagogical decisions” (p. 35). Darling-Hammond terms this type of standards evidencing “public and collegial” (p. 9) and is supported in this by Clark (2001) and Bishop, Clarke, Doecke and Prince (2004) who note that “conversation is increasingly recognised as a vital means by which teachers construct professional knowledge” (p. 2). This view further confirmed by Doecke et al (cited in Bishop et al., 2004) and supported by Vozzo and Kirkby (2011) in their Framework for Teacher Self-Appraisal. In the Framework, Accomplished and Lead Teachers analyse their own experiences using the vignette narrative as the subject of professional dialogue to acquire and share professional learning opportunities that involved “scope, complexity and scholarship.” The design of the framework thereby aimed to “assist

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teachers in analysing their practice at a deep level that enhances professional learning through a process of dialogue that mounts strong argument for accreditation, rather than a ticking off mechanism” (Vozzo & Kirkby, 2011, p. 1). Compared with other countries such as the UK and USA, Australia is in the early stages of e-Portfolio practice (Hallam et al., 2008, p. 17). At present, there is “a gap between current practice in Australia and leading edge practice in other countries” (Faulkner & Allan, 2009, p. 32).

Ingvarson (cited in Cutter-Mackenzie, Clarke, Smith & Su, 2007) reinforces the value of the portfolio in terms of teachers being “able to design their own professional development to attain standards of excellence” (p. 4). In 2004, the Portfolio Research in Maths and English, (PRIME) Project, conducted in Victoria, aimed to “investigate and document ways Maths and English teachers demonstrated professional accomplishment by preparing portfolios” (Bishop et al., 2004, p. 2.). The research aimed to critique the teaching standards, their application and their interpretation by teachers who prepared portfolios to demonstrate professional accomplishment. The research also aimed to incorporate the viewpoints of the teachers who assessed the standards. In relation to this review, the PRIME study found the portfolio provided an opportunity for teachers to reconsider the standards and reflect on their previous evidencing with “changing understandings ... within the context of their ongoing professional practice” (p. 3). The PRIME portfolios included professional journey stories and narratives, which equate to the concept of the vignette. Thereby, both portfolio use and vignette narratives were seen to facilitate assessment of teaching standards.

In the PRIME Project, the portfolios provided evidence of meeting accomplished standards and the associated professional dialogue contributed to the teachers’ learning. The process however, involved significant tensions and sparked particular questions:

- Teachers showed anxiety about the quality of their portfolio evidence and about offering themselves for professional judgment. If Accomplished Teachers have this anxiety about portfolio construction and standards assessment, how much greater is the anxiety of PST and Beginning Teachers?
- The PRIME teachers felt they were “positioning themselves as competing for recognition” and that their credibility was “on the line” (p. 4)
- There was a gap between an existing situation and the desire to find a better way of doing things (p. 6).
- How does one compare teachers’ work on a level playing field while acknowledging that teachers have individual styles and different levels of creativity in their teaching?
- A portfolio of work (with the opportunity to speak one’s own voice about how people feel about teaching) seems a good compromise between ‘economic rationalist’ accounting of students’ results and the ‘human’ side of teaching.
- “I also rebel against the idea of choosing a topic to be ‘the portfolio one.’ Shouldn’t it be an example of what one normally does instead of deciding next week is the portfolio week and assigning learning activities especially for it?” (p. 4)

A further danger observed in the study was that the assessment of standards promoted the idealising of teachers’ work:

Is it really possible for portfolios to be used as a vehicle for practitioner enquiry in a managerial climate that obliges people to talk up their accomplishments...and gloss over the complexities and ambiguities, the missed opportunities and failures, the challenges and
small victories ... that teachers experience in the course of their professional lives? (p. 8).

The PRIME Project concluded that standards and portfolios may be used “to regulate teachers and measure teachers’ performance...unanchored in the complexities of professional practice” (p. 9).

The PRIME study, as others before it, found that standards assessment for the Accomplished and Lead teacher confronted the challenge to take the complexity of teaching into account. As early as 2002, Brock cautioned that any standards evidencing for teacher accomplishment and leadership must be “firmly grounded in an accurate and comprehensive understanding of both the timeless and evolving nature of the work of Teachers, Principals and other school leaders” (p. 13). This same criterion was listed by the Independent Education Union (IEU) of Australia in 2011: “The knowledge and skill underpinning effective teaching is sophisticated and complex – standards of accomplished teaching and methods for gathering evidence need to reflect this complexity” (p. 4.). This is an ongoing concern and many of the sources view the complexity of the teaching process as a hindrance to effectively assessing teaching standards.

By 2007, the NSW DET had created the role of the Highly Accomplished Teacher to provide a pathway, role and recognition of teacher accomplishment. In America, teaching standards were certified by the independent National Board of Professional Teaching Standards, (NBPTS) and by 2006, 50, 000 Accomplished Teachers, 2% of the U.S. teaching force, had voluntarily gained advanced accreditation.

Without accomplished teaching standards, educators lack the primary means other professions use to incorporate knowledge advances into the training of each generation of practitioners....A continuum of teaching standards...may bring focus and coherence to a fragmented, chaotic system that earlier left teaching largely to chance (Ingvarson & Hattie, 2008, p. 29).

This reasoning is also reflected in Moore-Johnson (2000) who noted:

A staged career in teaching must be more than a professional ladder for ambitious individuals. Rather it must become a latticework of expertise, support, advancement and leadership, engaging more accomplished and experienced teachers in developing curriculum, mentoring junior colleagues, soliciting community support and participating in important decisions about schools (p. 27).

Frameworks for reflective practice and pedagogy

Schon (1987, cited in Bouriscot and Roberts, 2006), stated that “‘reflection-in-action is an essential aspect of educating professionals” and urged “professionals to examine more closely what constitutes competent practice and competency beyond the technical and easily measurable” (p. 79). Reflective practice can be scaffolded with pedagogical frameworks that assist teachers to self-reflect or reflect with their peers or mentors in learning communities; digital or actual. Some of these pedagogical frameworks are the 5E’s, the NSW Quality Teaching Model and the MeE Framework. These are further explained in the following paragraphs.
**The 5E Framework**

The 5E Framework is an instructional model based on the constructivist approach to learning that allows learners to build or construct new ideas on their prior ideas. Each of the 5E’s describes a phase of learning: Engage, Explore, Explain, Elaborate, and Evaluate. The 5E’s allows students and teachers to experience common activities, to use and build on prior knowledge and experience to construct meaning and to continually assess their understanding of a concept. The focus of the 5 E’s is on what school students do.

Engage: This phase starts the process. An "engage" activity should do the following: make connections between past and present learning experiences, anticipate questions and focus students' thinking on the learning outcomes of current activities. Students should become mentally engaged in the concept, process, or skill to be learned.

Explore: This phase provides students with a common base of experiences. They identify and develop concepts, processes, and skills. During this phase, students actively explore their environment or manipulate materials.

Explain: This phase helps students explain the concepts they have been exploring. They have opportunities to verbalise their conceptual understanding or to demonstrate new skills or behaviours. This phase also provides opportunities for teachers to introduce formal terms, definitions, and explanations for concepts, processes, skills, or behaviours.

Elaborate: This phase extends students' conceptual understanding and allows them to practise skills and behaviours. Through new experiences, the learners develop deeper and broader understanding of major concepts, obtain more information about areas of interest, and refine their skills.

Evaluate: This phase encourages learners to assess their understanding and abilities and allows teachers to evaluate students’ understanding of key concepts and skill development. (Source: [http://enhancinged.wgbh.org/index.html](http://enhancinged.wgbh.org/index.html))

**The Quality Teaching Model (QTM)**

The NSW QTM (2003) identifies three dimensions of pedagogy that have been linked to improved student outcomes:

- Pedagogy that is fundamentally based on promoting high levels of intellectual quality;
- Pedagogy that is soundly based on promoting a quality learning environment; and
- Pedagogy that develops and makes explicit to students the significance of their work.

While intellectual quality is central, all three dimensions are essential for improved student outcomes.

- Intellectual quality relates to deep knowledge, deep understanding, problematic knowledge, higher order thinking, metalanguage and substantive communication.
- Quality learning environment relates to explicit quality criteria, engagement, high expectations, social support, student self-regulation and student direction.
• Significance relates to background knowledge, cultural knowledge, knowledge integration, inclusivity, connectedness and narrative.
(Source: www.det.nsw.edu.au)

The MeE Framework
The MeE Framework (Munns, Sawyer & Cole, 2013) considers pedagogy in terms of student motivation, engaging messages received by the students about the learning, and the quality of the educational experience as a whole. One aspect of this framework that is appropriate for teacher reflective practice, relates to engaging messages projected by the teacher and how they are perceived by students.

‘e’ngaging messages:
• Knowledge: Reflective involvement in deep understanding and expertise.
  o Students are involved in elements of the dimension of intellectual quality (deep knowledge, deep understanding, problematic knowledge, higher order thinking, metalanguage, substantive conversation);
  o students can see connection and meaning in their learning.
• Ability: Feelings of being able to achieve and a spiral of high expectations and aspirations.
  o Tasks are positive and allow all students to demonstrate what they know and can do;
  o tasks involve challenge;
  o students are encouraged to see the connection between working well, thinking hard and feeling good;
  o students feel they are capable.
• Control: Struggles over student behaviour are let go by teachers – they cannot be won.
  o Students get chances to think about, discuss and look after their own behaviour;
  o students feel they can do this together.
• Place: Within the full range of learning activities students are helped to make constructive connections with their own real world.
  o Continuous and positive affirmation about the importance of all learners within their own community;
  o students feel “It is great to be a learner from...”
• Voice: Learning environments of discussion and reflection about learning, with students and teachers playing reciprocal meaningful roles.
  o Students are given time, opportunities and tools to reflect on, assess and drive classroom learning;
  o classroom talk becomes more like a series of conversations between students, their teacher and each other;
  o students feel that they share the learning.

The learning experiences of the MeE Framework are recognised as being effective when they are:
• High cognitive: Students are involved in experiences that reflect intellectual quality – deep knowledge and understanding, problematic knowledge, higher order thinking, metalanguage and substantive conversation.
• High affective: Students value and enjoy the learning and are involved in negotiating learning situations.
• High operative: Students actively participate in experiences working towards becoming more effective learners.
(Source: Munns, Sawyer & Cole, 2013)
Up to this point, this review has examined the literature in terms of the first three focus questions:

- Where are the professional teaching standards being assessed and by whom?
- What forms are being used to evidence standards?
- What processes facilitate or hinder assessment of teaching standards?

The review will now consider the body of literature that deals with the next questions:

- How is digital technology being used in teaching standards assessment and evidencing processes?
- To what extent does standards assessment, with or without digital technology, aid teacher effectiveness, teaching quality and learning outcomes?
- How are standards being assessed in relation to aboriginal and other Pre-service teachers?

Assessment of Standards using digital technology

“Networking, electronic linkages and direct-access technology are essential ingredients of a reconceptualised teacher education ‘platform’, deliberately drawing on new developments in digital technology and its associated rhetoric” (Green & Reid, 2004, p. 268). This thinking is evident in the NSW Department of Education Office of Schools Plan 2009-2011, which undertook to “develop teacher capacity in the use of ICT” and “extend learning opportunities for teachers across communities of schools and learning partners” (p. 10).

Graduate Teachers vary in their experience and competence with ICT.

Self-assessments of ICT use in teacher education…show awareness of the importance of developing graduates’ ICT competencies; varying progress towards preparedness for teaching;...and considerable variation on assessment and interpretation of ICT experiences within courses and institutions” (Ingvarson, Beavis, Kleinhenz & Elliott, 2004, p. 50).

This observation emerged from the large research survey conducted in 2004 by the Australian Council for Educational Research (ACER) across all 38 Australian higher education institutions who delivered PST courses. The study cited portfolios as the main vehicle for PSTs to evidence Graduate standards in the practicum (Ingvarson et al, 2004, p. 51). Significantly, in 2009, Fitzgerald and Steele also observed that “all [university] students are not created equal” in terms of technology competency (p. 40). These quotes thus recognise the need to address the challenge to equip PSTs with the technological means and the curriculum to more readily evidence teaching standards, including the ability to “implement, use, model and lead” through information and communication technology (AITSIL, 2008, p. 11). Further, while students’ technological competence may vary, exposure to technology for PSTs, teachers and learners is increasing. As a result, more PSTs and educators arguably lack the resistance to digital learning and new technologies often experienced by their predecessors.

As evident from the discussion thus far, there is some contention that standards and technology distance teachers from the social, political and philosophical understandings of teaching. The next part of this review therefore explores the extent to which using standards and digital tools to evidence them “pressure[s] teachers for uniformity within a

Conceptual framework for digital technologies and e-Portfolios

Digital technologies
‘Digital technologies’ is a broad term for communication technologies that can be used to build and maintain a virtual network that allows distant participants to interact with each other, demonstrate their engagement in self-study, and evidence standards. In nurse education, the use of handheld technology in clinical practice has been well documented (Wu & Lai, 2009). In teacher education, Lee and Wu (2006) have used videos in web-based computer-mediated communication as support tools for self-reporting, reflection and to produce artefacts for teaching portfolio collections. In their project, Ryan and Walta (2009), used mobile phones to make micro-teaching videos and podcasts for use in online discussions. In America, Hedrick, McGee and Mittag (2000) reported perceptions of PSTs who were learning and communicating via one-on-one tutoring through e-mail.

e-Portfolios
The concept of e-Portfolio is generally seen to involve processes as well as a product (Smith & Tillema, 2003 cited in Owen, 2010). Most definitions and descriptions recognise e-Portfolios as “a collection of works that represent physical evidence of achievements” (Mason, Cochrane & Owen as cited in Owen, 2010, p. 73). Another definition is “a tightly integrated collection of web-based multimedia documents that include curricular standards, course assignments, student artefacts, created in response to assignments and review feedback to the student’s work” (Gathercoal, Love, Bryde & McKean cited in Owen, 2010, p. 73-4). Using Web 2.0 principles and tools, Owen (2010) considers “e-Portfolios to have the scope to be a multi-faceted forum, with areas for collaborative development, private reflection and showcasing achievements” (p. 77).

The Australian e-Portfolio Report (AeP), investigated the use of e-Portfolios across all 38 Australian tertiary institutions (Hallam et al., 2008). Valuing the e-Portfolio in terms of the processes it incorporated, AeP defines an e-Portfolio as a repository of artefacts and a means to:

- access personal information, perhaps held in distributed databases;
- present oneself and one’s skills, qualities and achievements to others;
- collect and selecting assessment evidence;
- guiding tool to support review and choice;
- share and collaborate; and
- encourage a sense of personal identity (Ward & Grant, cited in AeP, 2008).

The process side of e-Portfolios is defined in the AeP (2008) as including:

- goal setting;
- continuous reflection;
- selective communication;
- social networking across institutional boundaries;
- a representation of digital identity; and
- “allowing learners to move beyond what they have learned to consider how they have learned and to understand the connection inherent in the creative process of learning” (Hallam & Creagh, 2010, p. 4).
Assessing professional teaching standards in practicum using digital technologies with Aboriginal and other pre-service teachers

A wide variety of e-Portfolio platforms are available to tertiary institutions, including Weebly, Pebblepad, Desire2Learn, Mahara and Blackboard. They all facilitate the sharing of written reflection, images, documents and files. Some, like Weebly Pro, enable the sharing of music and sound and permit users to personalise, design, exercise choice and take ownership of the contents of the e-Portfolio. Owen (2010) sees these as important factors in supporting the effectiveness and sustainability of e-Portfolios as student-centred, pro-active and empowering.

When PSTs develop e-Portfolios they benefit from “guided reflection” that helps them work through the processes of artefact creation, time management, problem solving, critical thinking and evaluation (Owen, 2010, p. 92). Scaffolding the PSTs' use of technology, as well as facilitating their understandings of the pedagogy involved in evidencing standards was also found to be invaluable. Owen’s research with PSTs in The United Arab Emirates and New Zealand identified key factors that contributed to the effectiveness of e-Portfolios. These included:

- Ensuring clarity of purpose, linked with context;
- enabling/ valuing casual and peer learning;
- selecting tools that are easy to use but sophisticated enough to enable creativity/personalisation;
- integrating into curriculum and assessment;
- using frequent, meaningful feedback from tutors and peers; and
- providing pedagogical and technological support (p. 97).

These factors are reinforced by Joyes, Gray and Hartnell-Young (2010, p. 22) and by the AeP study (2008) that reported the e-Portfolio allowed PSTs to “move beyond what they have learnt...with the focus changing from assessment of learning to assessment for learning.” It was also found that an increasing number of academics are introducing e-Portfolios into their teaching...as an enabling process that encourages students to engage with their learning...Beyond the direct support for learning individuals can draw on the e-Portfolio to:

- Support their transition into employment or further education;
- provide evidence of their achievements and competency attainment when applying for a job or professional standing; and
- scaffold their career development over a period of time (pp. 16-17).

Hallam et al. (2008) assert the benefits of e-Portfolios are “widely documented”, and include:

- Improving learning effectiveness and information skills;
- enabling accreditation; connections among formal and informal learning experiences;
- enabling an archive of one’s artefacts and reflections;
- efficient management of PST work, and
- increasing transparency (p. 59).

Siemens (as cited in Hallam et al., 2008) supports and further augments the above list, identifying the following factors:
• personal knowledge management;
• history of development and growth;
• planning/goal setting tool;
• provision of metacognitive elements to assist learners in planning future learning needs; and
• personal control of learning history, as compared with organisations controlling the learning history (p. 59).

The AeP study also reported challenges of using e-Portfolios to evidence standards and promote reflection. The survey responses of 70 university students identified challenges that included:

• One quarter of the students considered the selection of experiences and drafting the entries the biggest hurdle.
• Students found the reflective process specifically challenging.
• Six students said that finding time to work on the e-Portfolio was a concern, given all the other responsibilities they had.
• Technical issues concerned 13 students, although four students directly commented on how easy they found the technical side of things.

In contrast, and in terms of the outcomes of the e-Portfolio task:

• 84% agreed or agreed strongly that it had helped them evaluate and reflect on their learning processes.
• 71% felt it had helped them keep track of their learning experiences and reflect on areas of weakness.
• 74% found it a valuable place to store examples of coursework.
• 60% noted it had helped store examples of extracurricular activities that might be relevant to future careers.
• Less than half believed that it had contributed to their becoming effective, independent learners.
• Half of the students felt positive and enthusiastic about the e-Portfolio, while over one third was neutral (Hallam et al., 2008, p. 104).

The AeP presents 10 recommendations to promote the wider use of e-Portfolios. These include the use of an e-Portfolio toolkit, as available on the AeP website (Hallam & Creagh, 2010, p. 11). This website provides a practical scaffold for PSTs and their educators to support e-Portfolio development.

Evidencing of teaching standards in all Australian states and throughout the countries encountered in this review, especially the USA, emphasise that teachers show evidence of employing reflective practice which documents their situational learning. Numerous international examples of the successful implementation of e-Portfolios as a learning tool for PSTs exist (Bartlett, 2006; Ring & Foti, 2006 cited in Hallam et al., 2008, p. 41). In Australia, numerous institutions incorporate the e-Portfolio for assessment of graduate standards (Hallam & McAllister, 2008 cited in Hallam et al., 2008, p. 49). As yet however, the e-Portfolio has not been accepted as a mode of presentation by Australian teacher accreditation agencies.

e-Portfolios and the English experience

In England, the Joint Information Systems Committee, (JISC), enables higher education to benefit from the use of digital technology. JISC has produced two landmark resources,
Effective Practice with e-Portfolios (2008) and e-Portfolio infoKit (JISC infoNet cited in Joyes, Gray & Hartnell-Young, 2010). JISC reported exploring e-Portfolios to:

- Support more profound forms of learning;
- Add value to personalised and reflective models of learning;
- Facilitate the transition between institutions and stages of education;
- Support application to education and employment staff appraisals, and
- Support applications for professional accreditation and learners based in the workplace (Joyes, Gray & Hartnell-Young, 2010, p. 16).

JISC also detailed projects exploring the e-Portfolio role in “evidencing competencies or standards for summative assessment...and encouraging learners to present their experiences, achievements and reflections, to share them with peers, tutors and employers and incorporate feedback into their learning” (Joyes, Gray & Hartnell-Young, 2010, p. 17).

The analysis of results in studies commissioned by JISC revealed the benefits of e-Portfolio use included:

- Efficiency and time saving.
- Enhancement of quality of accreditation evidence.
- Skill development.
- Satisfaction and increases in recruitment and retention.
- Transformation, innovation and policy change (p. 21).

The article also contained a caution against the disruptive nature of e-Portfolios because they tend not to fit with existing systems of pedagogy, technology and institutions. Problems may arise from the preconceptions that:

- An e-Portfolio will save everyone time and simply replace a paper based portfolio system.
- Human resources departments, employers (and in Australia, accreditation systems) will value an e-Portfolio in the accreditation process.
- University admissions welcome e-Portfolios.
- A successful project implementation will readily transfer to established practice across an institution.
- Curriculum and pedagogic approaches remain unaffected by e-Portfolio implementation.
- Information capture is unproblematic.
- Access by learners to e-Portfolios is unproblematic (p. 23).

Use of the e-Portfolio to build a community of practice regarding teaching standards assessment

In 2009, the ALTC provided further funding for an Australian e-Portfolio Two project (AeP2). One of the aims of the second project was to “establish, facilitate and encourage an Australian community of practice for e-Portfolio researchers and practitioners” (Faulkner & Allan, 2009, p. 33). The authors outlined a design approach for use of the e-Portfolio that promoted a reflective community of practice among teachers that can assist evidencing of standards by “expanding perspectives of learning and challenging existing views” when creating annotations on standards (p. 36). This ongoing, collaborative research design and study between the University of South Australia and Royal Melbourne Institute of Technology University (RMIT) uses the PebblePad system within the community of
participating academics and university students to explore the possibilities of the e-Portfolio. One of the areas identified for action research collaboration was “professional accreditation and evidence of learning outside of the university setting” (p. 39). By 2009, “the collaborating universities commenced translating the evidence basis for engineering accreditation into e-Portfolio form...into a flexible digital format readily shared with employers and career-relevant parties” (p. 43).

Evaluation of the project thus far has informed the process of e-Portfolio development as follows:

- Technology brings its own challenges. It requires:
  - Advance planning to co-ordinate availability of rooms used for teaching (also video-conferencing); and
  - Support of skilled technicians (p. 45).
- The need to manage technical problems in terms of skilling, curriculum task design, time and place of technological system access, navigation of technology (p. 45).
- Establishing mechanisms to support and grow opportunities for interaction of participants in the community of practice (p. 46).
- Create resources to aid e-Portfolio implementation and stories of action learning about e-Portfolios (p. 47).

Building online communities among teachers is the focus of several research papers (Reil, 2000 cited in English & Duncan-Howell, 2008, p. 597). English and Duncan-Howell (2008) researched the use of social networking tools such as Facebook to support Business Education students undertaking practicum (p. 596). The 28 participants were invited to post one or more messages on Facebook using the Web 2.0 platform, while undertaking a four-week practicum in Queensland. The site was closed to all except the participants of the study. The opening page of Facebook was “seeded” (p. 598) by the site administrator/academic with statements and questions to provoke and/or scaffold PST responses.

The responses fell into five broad themes:

- Other (n=54) – related to generalised, affective communication about the practicum.
- Excitement (n=37) – positive, anticipatory posts written at the start of the practicum and supportive, encouraging comments at the end of the practicum.
- Problem (n=20) – associated with problems such as nerves, lack of resources, subject, supervisors and student issues.
- Joke (n=19) – humorous, self-deprecating comments.
- Solution (n=18) – collaborative responses to problems and issues raised by others (English & Duncan-Howell, 2008, pp. 599-600).

This cohort of PSTs was described as “digitally fearless and who used new forms of technology as they were released” (p. 597). The results indicate that digital habits may be used to develop supportive online tools that assist students during the practicum.
Models of digital technology and e-Portfolios used with PSTs and practicing teachers

A number of research studies also modelled the use of e-Portfolios with PSTs. In America, Herner-Patnode and Lee (2009) worked with 41 Masters of Education students and used the Carmen version of the Desire2 Learn web platform to assess the effectiveness of using a web-based portfolio. The study used pre and post surveys to assess how the PSTs perceived the e-Portfolio had increased their knowledge, skills and dispositions about technology use and record reported problems with technological difficulties and accessibility. The surveys also asked how using the technology had helped the PSTs to increase their abilities to create and maintain an e-Portfolio and interact in a learning community.

Another study of two American PST programs incorporated the use of video-conferencing with four university academics during practicum (Dymond, Renzaglia, Halle, Chadsy & Bentz, 2008). The reliability of on-site and off-site communication was cited as being 86%. As with other studies, the main challenges posed by technology centred around the skill level of participants, management and regulation of equipment setup, internet connection, and visual field and sound quality (p. 250). The findings were positive and transfer to evidencing teaching standards by:

- Enabling reflection and evidencing from remote practicum setting in real time.
- Promoting collaboration between PSTs, teachers, school and university; and showed that “video-conferencing has the potential to increase the number and quality of interactions between the practicum student, on-site supervisor and university supervisor.” (Clawson & Weiner in Dymond et al., p. 245)

In Western Australia, Broadley, Boyd and Terry (2009) used video-conferences to connect disparate, remote communities of teachers. The survey results from the 110 teachers involved in the professional learning seminars via video-conferencing identified the challenges and the successes which they felt were greater. Challenges included using the technology and venue problems of logistics, skill with tools, synchronous file sharing, the need for technology back up plans, and the time expended by the voluntary co-ordinators. The successes included initiation of teacher networks at the local level, collaboration and commitment from partner organisations and the delivery of successful professional learning seminars to teachers who would otherwise have no access to them.

How the use of e-Portfolios can help develop and retain PSTs’ reflective skills is explored by Chetcuti, Buhagiar and Cardona (2011). This study was undertaken with 15 Maltese teachers in their first year of teaching and data was collected through a series of interviews to develop a “reflexive, multi-voiced narrative” (Denzin as cited in Chetcuti et al., p. 64). All the participants agreed that they continued to reflect in their first year of practice and four of the 15 continued the development of their e-Portfolio in its formal sense, as indicated by their comments:

- I still develop my e-Portfolio and right now I am going through a refurbishment..It is something which helps me check my progress. It helps me review and reform my way of teaching. (p. 66)
• The e-Portfolio helped me to develop reflective skills. I don’t write in it anymore...but the skills of reflection I acquired are still with me. I still think back and think how I could deal with a situation or how I could do things better. (p.67)

• I just reflect...I usually act on it. (p. 67)

The research concluded that reflective skills were retained by beginning teachers as a “habit of mind” (p. 69) and that there is an obligation on “school leaders continuing the support of staff confidence and competence in the use of ICT” (Groundwater-Smith, 2007, p. 5).

Use of digital technology to support Indigenous Education

The Melbourne Declaration commits to action in “improving educational outcomes for Indigenous youth...to close the gap for young Indigenous Australians” (pp. 11, 15). The Australian Government’s “target of reducing Indigenous disadvantage...includes improving Indigenous higher education outcomes and enhancing Indigenous culture and knowledge in Australian higher education” through the Indigenous Higher Education Program (www.deewr.gov.au). This is the mandate for Indigenous education, very little literature exists however that directly assists PSTs who undertake their practicum in schools with a high Aboriginal student population.

A study by Trinidad (2009) focuses on blogging by Aboriginal school students and their teachers in two remote Western Australian schools separated by distance. The study modelled the use of digital technology for “meaningful, socially connected learning” (p. 261) and the students and teachers alike enjoyed blogging with their peers in their partner school. To protect the school community, the teachers used the MyInternet Blog system. In the next experience, it was considered that a site like Blogger.com might increase the benefits of social computing and reach an appropriate audience beyond the school community network (pp. 258-260).

It is significant that Trinidad’s case studies illustrate the importance of place-conscious education (Green & Reid, 2004). Place-conscious education locates digital learning in the emotional, as well as geographical entity of place. The case studies also support the importance of teacher education that acknowledges and works with local communities and uses strategies for teaching Aboriginal and Torres Strait Islander students, as articulated in the Australian National Standards (AITSL, 2008, p. 9). The processes of developing an e-Portfolio in the study discussed here and as presented elsewhere in this review, did not differ greatly from those that supported this online community of learners. An aspect of Trinidad’s study that informed PST online users and those who teach in schools with high Aboriginal population was the participant population; some of the school students and adult participants were Aboriginal. The motivation derived from the use of technology and the impact on improving English as well as technological literacy suggested these factors could be transferable to the situations of PSTs who teach Aboriginal students.

Gruppetta and Mason (2011) address applications of technology to Aboriginal education. They outline the use of Facebook in relationship building with Aboriginal students. Facebook was seen as a link between the academic community and the Australian Indigenous community that could assist in building relationships that promote learning. The importance
of relationship building within tertiary education for Aboriginal students is the key to their retention and success. Gruppetta and Mason (2011) exemplify how "relationships are built face-to-face and [are] extended through the use of tools such as Facebook, Multimedia Message Service and mobile telephone short message systems" (Milton, Gruppetta, Mason & Vozzo cited in Gruppetta & Mason, 2011). They also found that the area of “curriculum content, design and culturally appropriate implementation was most pertinent to their study of best ways to support ICT with Indigenous students” (pp. 199-200).

Gruppetta and Mason (2011) cite the following sources that comment on the use of ICT in higher education to support the learning of Aboriginal students:

- Inequity for Indigenous and rural students in the block mode study of ICT.
  (Barraket & Scott, 2001).
- The use of technology by Indigenous students and the extent of their technoliteracies.
  (Christie, 2001).
- Designing pedagogy to encourage independent learning and problem solving, building communities of elearners and developing a technical vocabulary and textual practices with electronic media.
  (Doherty, 2002).
- Investigating distance education and equity for Aboriginal students.
  (Gibb, 2006).
- Barriers to Indigenous learning in the vocational education sector.
  (Kilpatrick & Bound, 2003).
- Developing a guide for culturally responsive web design appropriate for Indigenous students.
  (McLoughlin & Oliver, 2000).
- The necessity for culturally appropriate content and language with scaffolding of the presentation of non-Indigenous ideas and theories.
  (Milton, Gruppetta, Mason & Vozzo, 2009).
- Engagement with ICT of Indigenous students in very remote areas and the need for scaffolding.
  (Wallace, 2008).

Barnes, cited in Gruppetta and Mason (2011), identifies characteristics he suggests are part of the learning style of many Aboriginal students. He suggests Aboriginal students tend to be more group oriented and respond to holistic learning; visual, practical and oral tasks and relationships were also highlighted as significant factors (p. 202). Similarly, Doherty and Mayer (2003) and Yunkaporta and McGinty (2009) contend the key to any kind of success in educating Aboriginal students is a strong relationship between the teacher and students.

Another valuable resource that informs cultural awareness and is relevant to Aboriginal and other PSTs is Being Culturally Aware. Becoming Culturally Inclusive: A Pathway to Cultural Competence (Williams, 2010), a text produced as an initiative of the NSW Aboriginal Education Consultative Group Incorporated (AECGI). This text is beyond the scope of this review but provides a wealth of valuable information for PSTs and anyone seeking to understand an Aboriginal community cultural teaching program.
Conclusion

Ingvarson et al (2004) observed

A considerable amount of research has been conducted over the past 15 years on reliable methods for assessing teacher knowledge and performance against teaching standards. These standards-based assessments include a diverse range of methods, from paper and pencil tests of teacher knowledge and pedagogical content, to classroom observation and portfolio tasks...and videotapes (p. 78).

To this list, as substantiated by this review, can added a range of digital technologies, including e-Portfolios developed from a variety of web platforms. This review also substantiates the following premises:

- The earlier teachers use new technologies and apply standards which become embedded in teachers’ knowledge, the easier it will be for teachers to evidence standards, which are mandatory for accreditation and promotion.
- The greater the familiarity with standards evidencing from the PST stage, the more likely Beginning and Accomplished teachers are to link self-reflection with effective practice, learning outcomes and achievement for themselves and their students.
- The earlier issues and challenges relating to e-Portfolios are managed, the easier it will be to develop the e-Portfolio.
- The earlier the development of reflection-in-action and reflection-on-action is promoted (Schon cited in Chetcuti, Buhagiar, & Cardona, 2011), the earlier the development of a habit of mind for continued reflection will be.
- The more mutual cultural awareness is experienced and understood by Aboriginal and other PSTs, the more likely these teachers will be able to successfully evidence professional teaching standards.

This literature review has identified challenges and issues associated with teaching standards assessment and the use of digital technology. It has highlighted extensive benefits arising from reflection, self-study, collaborative learning communities, reference to professional teaching standards and e-Portfolio development using digital technologies, particularly for PSTs who are geographically isolated. Some of the same challenges, issues and benefits discussed in the literature also arose in the course of this research, as did other factors particular to this project. In combination, and as detailed in the following chapters, these factors impacted the research processes on examining how Aboriginal and other PSTs used digital technologies during practicum to self-assess professional teaching standards, as well as the project’s stated outputs and the deliverables (see Chapter 1).
Chapter 4

Supporting pre-service teachers to assess professional teaching standards during the practicum

Introduction

A key purpose of this project was to develop an accessible and clearly delineated procedure to support PSTs’ assessment of Professional Teaching Standards during practicum. This procedure aimed to address two focus areas of the project: first, documentation to be accessible by a mentor/colleague or supervising teacher and available for use in conversations for providing feedback on teaching; and second, to provide a process whereby PSTs themselves could self-assess their progress. A guiding principle for the project was to equip PSTs with necessary reflection tools to enable them to undertake a self-study of their teaching practice. Reflecting this, and aligning with the objective to develop a clearly delineated procedure for PSTs’ assessment of professional teaching standards in practicum settings, it was intended that the procedure would permit critical reflection on attaining professional teaching standards which would serve as both a benchmark for reflection on teaching competence and a summative review of the standard achieved during, and at the conclusion of a practicum. The process of assessing the achievement of standards revolved around the selection of evidence, the annotation of this evidence, and its collation into an e-Portfolio. The e-Portfolio then became evidence for the formative and summative assessments of PSTs’ capacity to demonstrate the achievement of professional standards in the practicum setting.

Events

As detailed in Chapter 2, PST participants were drawn from different cohorts thus there were varying understandings of three study areas; professional teaching standards, the process of self-assessment and mentor conversations, and the representation of self as a competent graduate teacher through the construction of an e-Portfolio. A number of factors contributed to this variation:

- **Variation in stage of course.**
  
  Whereas CSU PSTs were in their third year of a Bachelor of Education (Early Childhood) course, their participation in this project was based around their initial and follow-up practicums in primary schools. This meant they were much less familiar with the Professional Teaching Standards than were the Aboriginal group of pre-service teachers from UWS and ACU who were in the final year of their course.

- **Alignment with teaching and assessment.**
  
  For the Aboriginal PSTs from UWS and ACU, the construction of an e-Portfolio based on the professional teaching standards was an ongoing assessment task which aligned their coursework with the aims of this component of the project. The PSTs from CSU participated in the project in addition to their coursework. For CSU PSTs there was no
assessment component linked to the project or to knowledge of the Standards. Nor were PSTs required, at this stage of their course, to construct an e-Portfolio.

The disjuncture between the knowledge of the UWS and ACU PSTs and that of the CSU PSTs in relation to key components of the project was addressed in a number of ways:

- An initial video-conference between CSU-Dubbo/UWS and CSU-Bathurst/ACU PSTs explained the Standards, addressed the process of evidence-gathering and demonstrated the process of annotation of evidence using the review tools of the Microsoft Word program.
- CSU PSTs were given additional opportunities in weekly seminars (outside their teaching time) to revisit the Standards, to assess the potential of lesson plans to be used as artefacts for evidence of achievement of Standards and to practise the wording and technique of annotation.
- CSU PSTs were assisted to establish their Weebly e-Portfolios in which they could locate evidence of standards achievement through the selection of on-campus artefacts and artefacts from their previous (Early Childhood) practicum where appropriate.

A key event that demonstrated the value of having clearly-delineated procedures for all participant PSTs was the visit by members of the project team to a number of PSTs during practicum. These visits were characterised by significant mentor/PST conversations using a reflection protocol based on professional teaching standards. The PSTs were able to display their pedagogical judgement and reasoning in relation to specific aspects of their lesson planning and implementation, to use the language of the Standards to articulate their reflection on their teaching and to identify potential areas for improvement in terms of moving closer to the Standards. Having participated in mentoring conversations around the Standards with Supervising Teachers and with project team members helped enable the PSTs to record their reflections and convey their professional development in the formal identification and annotation of evidence presented in their e-Portfolios.

Deliverables

As a result of the project, two Deliverables were produced that related to supporting Aboriginal and other PSTs in urban/regional and rural/remote practicum schools.

Deliverable 1: Guidelines for supporting PST in practicum schools with significant Aboriginal student populations (see Appendices 1 and 2)

These guidelines encourage PSTs to seek advice from their supervising teachers and their online learning community, and to engage in an inquiry-based approach into their practice, with reference to the Australian National Graduate Teaching Standards and developing cultural competence within their school communities. The guidelines also provide opportunities for PSTs to operate at the interface between Western curriculum knowledge and Indigenous knowledge. The Guidelines encourage PSTs to draw on local knowledge of land and place and strengthen relationships between the school and community. The guidelines also assisted PSTs to prepare ahead of the practicum.

In the practicum, PSTs are equipped to collect and annotate evidence of Focus Areas within...
the Australian National Teaching Standards in a range of circumstances. The process of self-study and collaboration with peers develops their knowledge base in teaching and learning and supports their judgments about the quality of their teaching. Through collaboration and development of ePortfolios, PSTs share their practicum experiences and the evidence that they believe demonstrates their performance at the Graduate Teacher Standard to peers and university mentors.

Deliverable 2: Guidelines for Pre-service Teachers’ Reflection during the Practicum (see Appendices 3 and 4)

These Guidelines provide specific resources to assist PSTs in conducting reflective conversations around attaining and evidencing professional teaching standards and in the annotation of evidence. The guidelines are associated with a scaffolded reflection process that encourages PSTs to approach reflection on their teaching from a standpoint of reasoning and judgement about critical pedagogical choices. This deliverable acknowledges that the mentoring conversations on which deep reflection depends cannot be acquired except by the formation of trust relationships between university and school-based teacher educator/mentors, and that such trust, particularly in an environment relying on the use of technologies, requires some time for face-to-face relating.

From this project, it became evident that the achievement of developing a clearly delineated procedure for PST self-assessment was reliant on a two-fold process: the reflection on teaching provided on site by conversations around a reflection tool, and the incorporation of the outcome of these reflections into an e-Portfolio. However, in order to actively prepare PSTs for both processes, they needed to become familiar with the Standards, as they engaged in the process of active and deep reflection, and in the development of a portfolio. These factors strongly suggest that such preparations need to be integrated into formal coursework and aligned with formal assessment procedures in teacher training courses. Deliverable 2 also recognises the need for significant technological support for PSTs as they prepare to develop an e-Portfolio or to enter into mentoring conversations via synchronous or asynchronous technologies.

Issues

A number of issues impeded the project in fully developing a clearly delineated procedure for assessing PSTs’ achievement of professional teaching standards in practicum settings. These issues largely related to the disparity in age, stage of course and experience of project participants.

The need to provide groundwork on standards, portfolio construction, and reflective practice for the two CSU PST cohorts, who were working in an extra-curricular setting, to some extent reduced the time these PSTs had to commit to the project. The age, experience and teaching difference between cohorts proved both an issue and benefit in terms of contribution to the project. The disparity meant that peer-mentoring across universities was not successful. However, the opportunity allowed experienced Aboriginal PSTs to showcase their teaching achievements and e-Portfolios to the generally younger and less experienced CSU cohort and to academics of another university. This was a significant benefit for the Aboriginal PSTs whose self-esteem as beginning teachers was boosted by the process.
The disparity between practicum timetables impeded the original intention of having cross-
university cluster groups where PSTs could assist each other in the process of lesson
planning, reflection on teaching and evidence-gathering. The geographical distance between
students on placement further limited the capacity for face-to-face visitations. However,
despite this, one of the key events of the project was the successful mentoring conversation
held between a project team member and a PST based in the Northern Territory via Skype™.
This example also highlights some issues with connectivity when video was lost but audio
connection was retained.

Findings

The project clearly demonstrated:

- Both Aboriginal and other PSTs were able to develop the capacity to self-assess
  their practicum teaching and to participate in mentoring conversations about their
  teaching using Professional Teaching Standards as both a benchmark and a
  common language with which to articulate understandings.
- Using reflective tools and protocols was an effective means to support PSTs to
  focus their reflection on teaching. When combined with an understanding of
  Professional Teaching Standards, such reflection was a source of teacher learning
  growth and understanding.
- Assessment by PSTs of suitable teaching artefacts as evidence of the achievement
  of standards was a valuable skill in encapsulating reflection in visible form. The
  incorporation of evidence into an e-Portfolio enhanced the process of
  consolidating PST learning in, and from, the practicum experience.
- Inter-university cooperation, based in robust relationships and common goals, was
  a valuable means by which PSTs in remote areas were supported on practicum.
- A discriminating use of synchronous and asynchronous technologies for inter-
  university communication, and for consolidating e-Portfolio learning were valuable
  adjuncts to face-to-face teaching and communication, broadening the avenues
  available for supporting PSTs on practicum.

Conclusion

In spite of the issues noted above, a clearly delineated procedure to support PSTs’
assessment of professional teaching standards in practicum was achieved through the
collection and annotation of evidence of achievement of standards, the use of structured
reflective tools and protocols by PSTs and university mentors, and the construction of e-
Portfolios to reflect PSTs own understandings of their achievement of the standards. The
components of the process were differentially and iteratively developed, according to the
requirements of coursework in each of the participating universities.

The completion of two cycles of action learning by the PSTs and project team members
enabled the development of knowledge about the assessment process and also provided a
range of experiences that demonstrated the value of each component in constructing an
effective assessment process for PSTs on practicum.
Chapter 5

Supporting pre-service teachers to document their learning and teaching practices during the practicum for use in e-Portfolio development

Introduction

The project team developed course materials for each of the university PST groups. These were used during the video-conferences held in May, 2011 and during their professional experiences to help construct their e-Portfolios. The purpose of the materials was to facilitate the skills of Aboriginal and other PSTs in identifying, analysing, documenting and sharing artefacts that evidenced various professional teaching standards. The coursework materials were designed to meet one of the project outcomes; to create coursework material to assist PSTs to document their learning and teaching practice through the use of digital technologies in constructing an e-Portfolio. This chapter details the coursework materials, examines issues that emerged related to the materials, discusses the findings, identifies the extent to which the outcome was achieved and indicates the deliverables created as a result of these endeavours.

Coursework material

Coursework materials were designed for seven areas: teacher accreditation, professional teaching standards (both NSW state and then national), the processes for evidencing practice, software instruction in the programs the PSTs would use, cultural awareness, Aboriginal and Torres Strait Islander knowledge systems and reflection tools and activities. The coursework materials were developed for three main collaborative events during the project:

a. the video-conferences held between paired university groups in May 2011;
b. cluster group conversations;
c. sharing of completed e-Portfolios in September/October 2011.

Table 4 shows the course materials created, provides a brief description of each and indicates when the materials were accessed by PSTs.
Table 4: Description and timing of coursework materials

<table>
<thead>
<tr>
<th>Coursework material</th>
<th>Brief Description</th>
<th>Utilised by PST</th>
</tr>
</thead>
</table>
| Lectures and Instruction | Explanation of the teaching accreditation process at both graduate and beginning teacher levels.  
Professional teaching standards – both NSW and national standards.  
Cultural awareness – developing intercultural relationships.  
Indigenous knowledge - Yunkaporta’s eight ways of knowing.  
Instruction in Weebly – creating a website, key components, uploading documents and other media, design and formatting features, etc.  
e-Portfolios – purpose, features, possible software tools (e.g. Microsoft office tools)  
Selection, analysis and annotation of teaching artefacts.  
Instruction in, and opportunity to practise, Skype™ | May video-conferences. |
| Discussion | Inter-university discussion between Aboriginal and other groups of PSTs with particular reference to knowing about Indigenous community and education practices and protocols.  
Inter-university sharing of completed e-Portfolios.  
Reflection activities and scaffolds with some PSTs during their practicum to assist in the development of aligning planning, implementation and reflection with the professional teaching standards. | May video-conferences.  
September/October video-conferences.  
During professional experiences of some PSTs. |
| Assessments | Assessments set for both UWS and ACU students required the completion of an e-Portfolio for the units in which PSTs were enrolled | Developed in unit outlines for specific units across both first and second semesters onwards |
| Resources | Supporting documentation for New Scheme Teachers (NSW Institute of Teachers)  
AITSL professional teaching standards  
Weebly and Skype™ instruction manuals  
Access to WeeblyPro and all resources on the project website www.badanami.weebly.com | |
The coursework materials were typically developed by sub-groups of the project team and delivered by different academics to cohorts, academic calendars and PST education units and courses as appropriate. The lectures (PowerPoints), instruction manuals, website resources, reflection activities, scaffolds, and websites are listed in the fully resourced Learning Module on how to incorporate Aboriginal perspectives in teaching and use digital technologies for providing evidence of professional teaching standards through e-Portfolio construction. This module is currently stored in the project’s website at www.badanami.weebly.com

Issues

Several challenges were encountered during the development and use of the course materials designed to assist PSTs in documenting their learning and teaching practice through the use of an e-Portfolio.

During the course of the project there was a change in the professional teaching standards from the state-based NSW Institute of Teachers to national standards produced by AITSL. Final year PSTs in 2011, when employed in 2012, were required by their state accreditation body to continue using the NSW Institute of Teachers Graduate Teaching Standards. However, the final year PSTs in 2012 would be required to use the national standards when they gained employment and universities were asked to assess final year students against these standards in 2012. As a result, the 2011 PSTs needed to be briefed on both frameworks, and in a relatively short period of time, become competently familiar with the wording and focuses of the NSW standards for use until the end of 2012. This, at times, caused some confusion and was somewhat overwhelming as both sets of teaching standards needed to be used throughout the 2011 coursework period.

Both video-conferences in May 2011 involved the pairing of student cohorts who were not at the same stage in their training. The CSU PSTs in the primary/early childhood course had not undertaken a professional experience in a primary school by that stage in the project whereas the Aboriginal PSTs, who were in their final year of primary teacher education, had completed more than three practicums. The result was that the discussion between the two groups comprised an unequal partnership. This had two different effects. On the one hand, the Aboriginal groups became advisors to the CSU PST group on issues related to Aboriginal protocols and cultural knowledge, thereby reproducing a cultural ‘service’ relationship which the Aboriginal PSTs noted as problematic. On the other hand, and also noted by the same PSTs as beneficial, this experience left them feeling like they had learned and knew more than other PSTs, thus validating their own learning, wisdom and professional authority.

Including the e-Portfolio as an assessment item within a compulsory unit of the teacher education courses resulted in finished e-Portfolios that met the desired e-Portfolio elements. PSTs who submitted under these conditions attended to the e-Portfolios even when pressed for time because it was due at university at a specific time and was part of the course requirements. In contrast, PSTs who voluntarily completed an e-Portfolio for the purposes of gaining better understandings and skills often prioritised other obligations and factors. For some PSTs, the genuine intention to complete the e-Portfolio was not enough.
incentive to do so.

While coursework material had been prepared to assist PSTs in reflecting on the planning, implementation and evaluation of teaching during professional experiences, the isolation of their placements meant that the PSTs were not always able to make valid judgments about standards assessment. The selection of evidence, and decisions about how to annotate it as evidence of a standard, required more personalised and individualised support. This was partially addressed through face-to-face discussions or Skype™ conversations. Where these avenues were not possible, it was difficult for PSTs to make decisions about artefacts and linkages to professional teaching standards. As a result, scaffolded and guided self-assessment materials were developed, as discussed in the preceding chapter.

The instruction manuals for Skype™ and Weebly were very useful for PSTs and staff when they needed to know how to use certain features of the programs. However, broadband ‘drop-outs’, poor coverage, different quality computers amongst staff and PSTs, and other inexplicable technical issues relating to Skype™ use could not all be addressed in the coursework materials. Conference delivery, practicum site reflections and implementation of learning materials benefited from advance preparation of alternative technologies and resources and flexibility in the structuring of group and individual time management. As the project progressed, team members became more expert at ensuring there was a ‘back-up’ technology available should any operational problems interrupt or delay communication.

There were some unexpected issues concerning the quality of PSTs’ work that arose during the project. First, many PSTs needed a ‘spell and grammar check’ function to enable them to pick up mistakes in their writing before it entered a more public domain. Weebly does not initially come with this feature and so it would have been helpful to forewarn PSTs of this in the materials provided. This would have helped some students who submitted their e-Portfolios for assessment present a more professional finish. Second, as these e-Portfolios were assessable items in two of the education sites, issues of authenticity and ownership emerged as a potential ‘quality assurance’ problem for the university assessment process. Authors of websites can alter their site at any time and, if published, they may be viewed worldwide. The potential for work to be altered after submission dates and before marking, or for some PSTs to copy or plagiarise already published e-Portfolios from their cohort was an issue. Coursework materials needed to anticipate these possibilities and include them not only as warnings in the lectures and manuals but discuss them in open forums with the PSTs.

Findings

Overall, the coursework materials constructed to assist PSTs in documenting their teaching practice in e-Portfolios using digital technologies, including Weebly, were helpful. A variety of data sources assisted in identifying the coursework materials that were of most help to PSTs.

The data included a post-conference survey distributed to the 34 (n) PST participants across the two May 2011 video-conferences. The survey focused on the impact of sessions, on the PSTs’ familiarity with professional teaching standards, knowledge about types of artefacts
that are possible in an e-Portfolio, skills and knowledge in working with Weebly, Skype™, and the use of reviewing tools in Microsoft Word to annotate artefacts.

The 34 responses indicated:

31 of the 34 PSTs believed the information about professional teaching standards and the use of ICT (such as Weebly, annotation features in Microsoft Word, and Skype™) was useful and was provided at the right level and amount.

33 of the 34 PSTs made positive responses about professional teaching standards and the ICT materials provided.

The following Likert style statements (Table 5) required PST to rate their understanding concerning differing aspects of content and skills presented in the conference.

Table 5: Rating results of PST survey regarding the video-conferences

<table>
<thead>
<tr>
<th>As a result of today’s conference my:</th>
<th>Did not increase</th>
<th>Increased by a small extent</th>
<th>Increased by some extent</th>
<th>Increased by a large extent</th>
<th>Total number of responses (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding about professional teaching standards</td>
<td>0</td>
<td>6</td>
<td>15</td>
<td>13</td>
<td>34</td>
</tr>
<tr>
<td>Knowledge of how to provide evidence of my competency</td>
<td>0</td>
<td>2</td>
<td>17</td>
<td>15</td>
<td>34</td>
</tr>
<tr>
<td>Skills and knowledge in using Weebly and Skype™</td>
<td>0</td>
<td>10</td>
<td>17</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>Skills in using Microsoft Word to annotate, hyperlink and embed artefacts</td>
<td>0</td>
<td>8</td>
<td>20</td>
<td>5</td>
<td>33</td>
</tr>
</tbody>
</table>

Open-ended responses from PSTs suggested that it would have been beneficial to spend more time in exploring the capabilities of Weebly and Skype™ and practising the use of Microsoft Word tools to enhance clarity in annotating and presenting artefacts. It appeared however, that the video-conferences which utilised combined knowledge and skills from the lecturers representing all three universities were successful overall. The benefit of familiarising PSTs with both the standards and the use of digital technologies is evident in the following PSTs comments that were collected at the September/October 2011 conferences:

I have learnt in this conference about a number of effective ways to present evidence, as well as different types of evidence you could include in your e-Portfolio. (UWS)

It was very helpful to view the other PSTs’ e-Portfolios and this will guide my work … I have learnt how to simplify my Weebly, with suggestions from other PSTs which is great! (CSU)
The coursework undertaken by the PSTs required participants to discuss intercultural understandings and the ways in which they would undertake the construction of their e-Portfolios. Such discussions, when technology was able to create the link-ups between groups, resulted in rich conversations about teaching practice, standards and the importance of respect when working in Aboriginal communities. The PSTs appeared to enjoy making contact with other PSTs at other universities. During the May video-conferences many of the Aboriginal PSTs who had worked in schools as Aboriginal Education Officers shared their knowledge about teaching Aboriginal children. Their authority to speak and share their knowledge was predicated on their successful teaching strategies, as witnessed in their roles as Aboriginal teaching personnel in schools. The flexibility to allow sharing and learning to emerge from discussions among the PSTs furthered the knowledge presented in the Learning Module (www.badanami.weebly.com) about Aboriginal and Torres Strait Islander student learning preferences and the pedagogies of yarning and visual literacy.

The Aboriginal PSTs, rather than relying only on the theory presented in the Learning Module of coursework materials about Aboriginal cultural positions, problematic issues and protocols when teaching in Aboriginal communities, took the lead, using their lived experiences to explain and explore evidence for teaching standards. This learning episode found that cultural awareness involved honouring experiences, age cohorts and different cultural backgrounds, as well as preparation and application of resources and learning materials. Typical PST responses when asked what they would like to achieve, by being involved in this project, included:

- Learning about Indigenous ways/strategies to work with Indigenous students and communities (12 PST).
- Networking, sharing with and supporting other PST (seven PST).
- Understanding and meeting professional teaching standards (12 PST).
- Learning more about Weebly/Skype™/technologies to develop an e-Portfolio (five PST).

Further data, by way of work samples, confirmed the coursework materials had been successful overall in assisting PSTs to document their teaching practices through e-Portfolios. The September/October video-conference between PST dyads later in 2011 enabled a sharing of submitted e-Portfolios and a discussion of what had been learnt throughout the process.

There was, of course, variation in the quality of reflection, application and presentation among the e-Portfolios submitted by 21 students. As a set however, they demonstrated the following attributes:

- All e-Portfolios were clearly designed and consisted of structured web pages.
- Explanations of artefacts were generally coherent and linked well to standards.
- Annotations were provided in hyperlinked or embedded artefacts using Microsoft Word reviewing tools (see Figure 3 below).
The annotations on the artefacts and the justification of selected artefacts use the metalanguage of the teaching standards (see Figure 3). The design and style of the e-Portfolios ranged from simple and quite pleasing to sophisticated and highly personalised (see Figure 4). Resourceful and innovative ICT skills were utilised to demonstrate breadth of standard evidence, for example, a slide show of resources used in a unit of work. Some PSTs explored beyond what was required and saw potential for Weebly sites beyond their course as a complete professional profile.

A sample of comments made by PSTs from ACU during the video-conferences demonstrate some PST’s responses to the task:

*I found the e-Portfolio to be a good way to share my career progress information.*

*I shall continue my Weebly for my accreditation process. I will be linking this in my letter to future Principals.*

*The e-Portfolio can be used for much more than displaying my teaching philosophy and evidence for professional teaching standards. It can be used for interviews, transcripts and career progress.*
As PSTs took turns in presenting their work to their partner cohort the excitement and nervousness was palpable. Discreet pleasure was experienced by the participants when other PSTs and lecturers commended their e-Portfolios and made comments such as “How did you do that? That’s amazing!” In the time since these PSTs have graduated, a few have taken the time to email lecturers and explain how they have since used their e-Portfolios:

I took my laptop to my interview with a principal and showed him how my work is evidence of the standards and he was really impressed. I think he was particularly impressed that I could create a site like that too.

The scaffolded reflection process undertaken during practicum provided the final data source that supports the assertion that the coursework materials assisted PSTs in documenting their teaching practice using a e-Portfolio framework. These face-to-face or technology assisted conversations via Skype™ took place in November, 2011 and June, 2012. This particular coursework resource and material was very helpful in supporting students in the identification and analysis of appropriate artefacts, as shown in the following understandings from three case studies. The case studies were conducted in Stage 2 of the project and the standards that are referenced relate to the NSW IT standards. The Project Officer took notes during the reflective conversations conducted during practicum. The notes are used here as data to demonstrate the use of coursework materials in the form of reflection scaffolds and one-to-one discussions and show how they supported the understandings and learning that emerged for three PST participants: K, C and A:

K’s self-reflection and mentoring enabled her to understand that she could:

- Elaborate on her lesson and continue with activities that would provide even more opportunities for students to contribute, co-construct learning and engage.
- Use more explicit instructions.
- Use this lesson to evidence Standards 1 and 2.
C’s self-reflection and mentoring enabled her to understand that she could:
- Increase the cognitive aspect of the lesson by reference to and images of different types of volcanoes.
- Create future lessons involving web quests and student narratives about eruptions.
- Gain insights into ways to sequence related activities into units of work.
- Change and be flexible with teaching strategies depending on the responses of the students and the degree of learning outcome achieved.
- Use the reflective discussion to evidence Standards 1, 2, 3 and 4.

A’s self-reflection and mentoring by the Project Leader during a field visit enabled A to understand that he could:
- Have introduced the lesson with reference to a life sized, labelled poster of the human body on the classroom wall.
- Be flexible in lesson planning and implementation to avoid information overload and respond to the unexpected from students.
- Use technical words more frequently in his questioning, for example, *Does anyone know what filtration means or when we filter things?*
- Develop role play into a more elaborate simulation in later lessons.
- Vary extension activities for those students who completed work ahead of the others to include their own diagram and labelling rather than just colouring in diagrams.
- Plan and take opportunities to question students’ knowledge and understanding to involve wider background knowledge.
- Use this lesson to evidence Standards 1 and 2.
- “The amount of feedback will be very helpful and has helped me to identify the places in my teaching that need improvement”.

As the action research cycle was repeated, by 2012, 17 PST had used course materials and collaborated with at least two other project participants and the Project Leader, via Skype™ and telephone, to analyse how standards were evidenced and met during the practicum in locations separated by distance. They reported that they:
- improved teaching and changed task design;
- developed their e-Portfolios and compared the influences of the different practicum contexts with their fellow PSTs in the project; and
- built relationships and gained more confidence about standards assessment as a result of reflection and collaborative conversations.

**Conclusion**

Overall, results drawn from the qualitatively analysed data suggest that use of e-Portfolios enhanced critical ICT skills and pedagogical knowledge required by beginning teachers to demonstrate teacher competency. Difficulties with aligning university calendars and the difficulties with broadband connections at times made this project a challenge. However, findings suggest that using an e-Portfolio with simple, accessible software such as Weebly and Microsoft Office is both effective and cost-friendly. Combined with communication tools for use with off-campus students, for example, video conferencing, phones and, where broadband access is strong, Skype, PSTs develop technical efficacy and skills; learn to recognise professional competency; and learn to articulate links to national teaching standards.
standards using appropriate meta-language, thus acquiring a sense of confidence and achievement at the start of their teaching career. Furthermore, small learning communities during or directly after practicum can be highly successful in enabling PSTs to capably identify and demonstrate what they know and can do as professionals.

At the time of writing this report, many of the Aboriginal PST participants in the project were employed and using e-Portfolios to demonstrate their development as part of standards assessment as beginning teachers. The findings substantiate the project’s concerns about meeting and overcoming the challenges associated with documenting learning and teaching practice using digital technology, and developing e-Portfolios to support teaching standards assessment. The potential of the e-Portfolio as an organic professional resume for use in applications for jobs and as an archival repository for artefacts of teaching has been an unintended but highly useful outcome, suggesting that the learning gained from such a task can have positive long-term benefits.
Chapter 6
Supporting Pre-Service Teachers’ capacity to teach across school populations and locations

Introduction

All PSTs in this project worked in schools with a substantial Aboriginal population, signified in NSW public schools by the presence of an Aboriginal Education Officer. One of the PSTs elected to undertake her placement in a remote community in the Northern Territory and others were placed in communities geographically removed from either their homes or their campus. PSTs were provided with experiences within their courses and throughout the project that were designed to assist them to better understand teaching Aboriginal and other Indigenous children, relate to Aboriginal communities and interpret the relevance of professional teaching standards. The project resulted in developing awareness, particularly in CSU PSTs of some of the protocols related to working in Aboriginal communities. The opportunity to reflect on, and thereby evaluate, the design and delivery of their teaching pedagogy was enhanced through the incorporation of protocols relating to working in Aboriginal communities and the use of digital technologies to support sharing of practicum experiences between PST cohorts.

Evaluation of a range of pedagogies comprised work in the field, where PSTs were supported by visiting members of the project team to engage in deep reflection on lessons based on pedagogical frameworks and see their relationship to the professional teaching standards. There was no explicit, project-based benchmarking of PST capacities to design, deliver and evaluate a range of pedagogies prior to the commencement of the project. During the course of project implementation however, evidence emerged, through case study and qualitative data, that the capacity for PST to design, deliver and evaluate a range of pedagogies was developed throughout the course of the project.

Understanding pedagogy to promote learning for Aboriginal children

The May 2011 conference provided CSU PSTs with an opportunity to relate to Aboriginal PSTs on a face-to-face basis through Skype™. Aboriginal PSTs, coming from a position of greater experience in schools, as both Aboriginal workers in schools and more experienced PSTs were able to answer questions from other PSTs, who also enquired about sensitive issues and learnt about the protocols required for working in and with Aboriginal communities. The capacity of the Aboriginal PSTs to respond in-depth to their younger and less experienced counterparts was a valuable, if unintended outcome of the conferences. Discussion was frank and open and dealt with issues such as the engagement of Aboriginal parents with their children’s school, as well as some Aboriginal cultural practices and their relationship to teaching. The May 2011 conference provided Aboriginal PSTs with an opportunity to contribute their knowledge of teaching to a younger and less experienced cohort of PST from CSU, who acknowledged the expertise of Aboriginal PST participants. As a consequence, Aboriginal PST participants were able to articulate and confirm their identity.
as graduate teachers and as Aboriginal people.

Table 6 shows the events of the project, the relationship between each of these events and their contribution to the outcome discussed in this chapter. In addition, the table sets out the relationship between events, the components of the outcome and the project’s deliverables.

Table 6: Relationship between events, outcome and project deliverables

<table>
<thead>
<tr>
<th>Event</th>
<th>Content</th>
<th>Contribution to outcome</th>
<th>Deliverable</th>
</tr>
</thead>
<tbody>
<tr>
<td>May conferences 2011</td>
<td>Professional Teaching Standards. Identifying evidence and annotation of work samples Using technologies: Skype™ and Weebly. Cultural competence and relationships with students from other campuses.</td>
<td>Development of initial understandings of key components of the project.</td>
<td>4</td>
</tr>
<tr>
<td>May-June 2011</td>
<td>Ongoing course work (ACU/UWS) and extracurricular seminars at CSU.</td>
<td>Consolidation of knowledge about standards, self-assessment, collection and annotation of evidence and using technologies.</td>
<td>3</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Development of &lt;www.badanami.weebly.com&gt; website as a model of an e-Portfolio; preparation of individual PSTs’ e-Portfolios.</td>
<td>Consolidation of understanding of e-Portfolio and access to model.</td>
<td>1</td>
</tr>
<tr>
<td>June-July 2011</td>
<td>Skype™ conferencing between PSTs and academics and among PSTs provided some opportunity for group reflection on teaching progress.</td>
<td>Facilitation by academics of peer reflection on teaching during field work.</td>
<td>2</td>
</tr>
<tr>
<td>September-October 2011</td>
<td>Sharing by video-conference of e-Portfolios</td>
<td>Evidence of PSTs capacity to implement and evaluate teaching.</td>
<td>3</td>
</tr>
<tr>
<td>30 October-4 November 2011</td>
<td>School visits</td>
<td>Deep reflection on lessons facilitated by reference to pedagogical frameworks and Professional Teaching Standards</td>
<td>3/4</td>
</tr>
<tr>
<td>November 2011</td>
<td>Post-practicum discussion (CSU-B).</td>
<td>Recount of and reflection on both professional</td>
<td>3</td>
</tr>
</tbody>
</table>
Issues

A number of issues arose in evaluating the extent to which Pre-Service Teachers’ capacity to design, deliver and evaluate a range of pedagogies had developed throughout the project. This included their capacity to use digital technologies in urban/regional and rural/remote practicum schools with a high Aboriginal student population. The extent of this development was largely related to the action learning approach adopted by the project team which involved acceptance of the emergent nature of the findings, and to issues related to cross-university collaboration which became apparent as the original skeletal framework of the project was ‘fleshed out’. There was flexibility in the implementation of the project and what became apparent was the project’s increasingly explicit focus on the process of self-evaluation of teaching practice in the field.

The extent to which other PSTs were able to work in communities and schools with high populations of Aboriginal students was limited by the capacity of some schools to support PSTs in practicum. Although the drawing area of PSTs included many schools with high Aboriginal populations, the distance from home and campus was a financial disincentive for some PSTs to work in new communities to extend their repertoire of practices related to community connection.

The capacity to have PSTs from different universities interacting in professional teaching standards assessment, as originally intended in the project, was problematic when Skype™ proved unreliable and when university calendars could not be aligned, particularly in relation to the timetabling of practicum.

The change in staffing and in lecture timetabling from the first session of the academic year,
2011, on the CSU Bathurst campus, loosened the relationship between PSTs and the project academic. This meant that less extra-curricular time was available for supporting Weebly construction and evidencing. In addition, half the Bathurst cohort took their second placement overseas, which was financially assisted. Although they were able to transfer some of their burgeoning cultural awareness to Indigenous cultures outside Australia, the opportunity to practise in a school with a high Aboriginal population was significantly reduced.

Findings

- PSTs require scaffolded support across a range of connected areas to effectively design, deliver and evaluate their teaching across a range of knowledge, skills and understandings. Improvement in teaching practice was evident where PSTs reflection resulted in improved planning and delivery of lessons, particularly in the use of digital technology.
- Inter and intra-university PST cluster sharing supported PSTs in developing understandings of cross-cultural issues that underpin successful and inclusive teaching. The dissemination of information and discussion around cultural protocols provided an opportunity for focused attention to the design and delivery of lessons and promoted connection to community, which reflected and respected Aboriginal cultural mores as evidenced in the PSTs’ e-Portfolios.
- The inter-university sharing of electronic portfolios by digital means, such as video-conference, strengthened PSTs’ understanding of designing and evaluating effective lessons for Aboriginal children.

Conclusions

Overall, despite the fact that the issues with digital technologies related to communication and with alignment of teaching schedules between universities impinged on synchronous and cross-university evaluation, the strength of e-Portfolio as a vehicle to capture reflection on practice and professional teaching standards was undiminished. The project achieved significant opportunities for enhancing PSTs’ understandings and practices of critical reflection and self-assessment against professional standards. The capacity to improve the capacities of PSTs in design and delivery was dependent on the degree to which PSTs were able to improve their ability to self-assess and transfer knowledge gained to their teaching practice. As a result, many PSTs increased their capacity to design, deliver and evaluate a range of pedagogies in practicum schools with a substantial Aboriginal student population.
Chapter 7

Establishing inter-university collaboration between Pre-Service Teachers via digital technologies

Introduction

An outcome of the project was to establish inter-university regional clusters of PSTs to engage in cooperative learning activities via video-conferencing and other digital technologies. Three major activities were planned to facilitate inter-university collaboration. The activities/events were:

- Inter-university video-conferences in May 2011 to assist PST cohorts across universities in identifying appropriate artefacts and relevant standards using digital technologies prior to the practicum.
- Inter-university regional clusters of students using Skype™ and Connected Classrooms technology to further assist in the documenting and analysis of artefacts during practicum.
- Inter-university video-conferences in September/October 2011 to assist PST cohorts across universities in sharing their e-Portfolios which evidenced standards after the practicum.

A number of factors resulted in some modifications to these strategies. This chapter details the strategies that were adopted, identifies the issues that emerged, presents the findings, discusses the extent to which the outcome was achieved, and specifies the deliverables created as a result of these endeavours.

Strategies

Pre-practicum video-conferences (May 2011)
As detailed in previous chapters, two one-day-long video-conferences were held between paired university groups in May 2011. Information regarding the professional teaching standards, intercultural understandings, and the ways in which artefacts of teaching could be identified and annotated to demonstrate professional teaching standards were disseminated.

The content delivered to inter-university cohorts via video-conferencing laid the foundations for understanding the process of accreditation and the purposes of gathering evidence to demonstrate teacher competency. A period of discussion followed in which documents such as Information for New Scheme Teachers addressed how to document the standards and the types of evidence that were appropriate for demonstrating professional competency. In each of the two video-conferences, the university dyads (including lecturers) shared ideas and information about a) appropriate artefacts for particular standards; b) what artefacts to consider and keep during the practicum; and c) how artefacts could be digitally annotated and explained in an e-Portfolio.
During practicum regional clusters
The strategy of using regional inter-university clusters of students during practicum was intended to support PSTs in their selection and retention of appropriate artefacts, thus assisting them in the construction of their e-Portfolios. This plan needed significant modification due to i) the lack of alignment in professional experience calendars across university groups, ii) overload of PSTs during practicum, and iii) the types of technologies that were ultimately available and accessible. In reality, inter-university clusters of PSTs did not occur. Rather, some PSTs connected with one or more lecturers and other PSTs from their own university via Skype™ thus the sharing of artefacts was limited to intra-university clusters.

Post-practicum video-conference (Sept/Oct, 2011)
After the e-Portfolios were submitted for assessment, two one-hour video-conferences between university dyads were arranged with the purpose of sharing finished e-Portfolios. It is important to note that CSU PSTs did not showcase their e-Portfolio because it was not an assessment item in the course unit they were studying (the PSTs involved were part of the project on a voluntary basis only). Only the Aboriginal PSTs from ACU and UWS shared their e-Portfolios. The Aboriginal PSTs took turns in using video-conferencing facilities to share their completed e-Portfolios and discuss the particular artefacts they chose to include, how they annotated the artefacts, and why they considered them to be relevant choices. This process of selecting appropriate artefacts, writing annotations and explaining why the chosen artefacts demonstrated various teaching standards was an important aspect of the project.

Issues
A number of issues emerged in establishing inter-university regional clusters to engage in collaborative learning activities via digital technologies. These issues related to scheduling of practicum, access to digital technologies and pressures of undertaking practicum and assessment.

Lack of alignment in university calendars resulted in PSTs completing practicums at different times of the year. This made it difficult for clusters of PSTs from two to three universities to hold discussions during practicum. The clustering of PSTs according to region appeared not to be as appealing or comfortable to PSTs when they could equally cluster according to their own university group with whom they had relationships. The PSTs wished to talk about their work within the safety of more established relationships. Some questioned the benefit of clustering with PSTs who were not as far progressed in their degree. As noted by one PST: “When we are the ones with more experience and understanding of primary teaching we are not sure how beneficial this is for us.”

Initially, it was envisaged that Connected Classrooms technologies would be available but PSTs found that such technology was not accessible to PSTs during practicum because it required the following: PST to be at school when in a ‘cluster’; schools having connected classroom technology; PST being allowed to use it; and PST knowing how to use it. Skype™ was often more easily adopted for the same purpose and could be used in the PST’s own home at a time convenient to them. Skype™ groups required a higher level of membership to administer and a higher level of expertise of users than originally thought. A reflection on
this process was noted by a lecturer during the implementation period: “Trying to create cluster groups is trickier than we originally thought. When I spoke to my student this week, the lecturer from the other university automatically went ‘on hold.’”

Broken conversations, loss of video, and technology drop-outs sometimes resulted in frustrating conversations using Skype™. The following excerpt is part of an email to the team directly after attempting a Skype™ conversation:

The other lecturer and I tried to Skype™ our students and there were multiple delays that left us with a very fractured conversation. Some students communicated through video (of varied quality) and some through audio only. It was difficult to have any student-student conversation – most of it went through me. Both lecturers found that we also had trouble with the internet dropping out on a fairly regular basis during the couple of hours we were online.

Another major factor in limiting collaboration between PSTs in practicum was that they found the practicum to be a very busy time, especially since the whole experience was assessed. The priority for many PSTs during practicum was to focus on that experience with a view to passing and getting a good report. Spending precious time on participating in discussions about digital artefacts for an assessment that was not due quite yet, when there were lessons to be prepared, evaluations to write, and class work to assess, meant that commitment to the cluster conversations was not strong. A number of PSTs acknowledged that cluster discussions would be helpful during practicum but they also expressed they were very busy and were also trying to keep up with domestic duties, parenting or being away from home at the same time.

The post-practicum video-conferences requiring PSTs to share the digital artefacts of their submitted e-Portfolios gave Aboriginal PSTs from ACU and UWS an opportunity to share their finished e-Portfolios with PSTs from CSU. The result of this sharing enabled PSTs from CSU to ask questions about e-Portfolios and ways standards could be evidenced. Focus group with CSU PSTs in March 2012 commented on what was learnt from the sharing of e-Portfolios. These CSU PSTs expressed a desire to develop their own e-Portfolios by the end of 2012. In addition, new PST cohorts from ACU and UWS in 2012 benefited from viewing the e-Portfolios created by Aboriginal PSTs in 2011.

Findings

Working in inter-university groups in the pre-practicum and post-practicum video-conferences was, for the most part, a positive experience for both teacher education staff and PSTs from the three universities. Participation was lively and the PSTs appeared to be excited about using video-conferencing as a way of meeting PSTs from other universities. Some benefits included:

- Inter-university delivery meant expanded expertise as more lecturers were involved. This resulted in staff sharing the teaching and enjoying the freedom to teach in areas of knowledge within which particular lecturers were expert.
- Combining Aboriginal with other PST groups meant that cultural and/or social barriers were broken down as PSTs conversed on topics of common interest,
Assessing professional teaching standards in practicum using digital technologies with Aboriginal and other pre-service teachers

primarily teaching. As mentioned in Chapter Five, in the May conference the Aboriginal PSTs had the opportunity to share their knowledge about Aboriginal and Torres Strait Islander education and community protocols, acknowledging their expertise in this area. The PSTs from CSU had a ready source of wisdom and advice from Aboriginal PSTs who understood the types of knowledge that were needed when working in rural and urban communities with a substantial Aboriginal student population.

• In the afternoon session of the May conference PSTs (one from each university group) were paired and used Skype™ to see and hear each other; conversations about practicum and teacher education courses began to flow. The opportunities that face-to-face video-conferencing provided both pre and post practicum afforded enhanced communication and a sense of being part of a bigger community of PSTs than just their own cohort at their own university.

• Skype™ proved to be time efficient and a good vehicle for professional communication among academics. The strategy of a ‘Skype Tree’ bridged distance when an academic Skyped with a PST who then Skyped with another PST to discuss and reflect upon standards and the practicum.

• Where clusters, or at the very least triads of lecturers and PST were able to connect via Skype™ or teleconference when Skype™ connections failed, there were benefits to the PSTs: “That was really helpful, [lecture’s name], I thought I was pretty right with this but just discussing other possible pieces of evidence made me realise the possibilities.”

• In the October conference, where PSTs were able to share their e-Portfolios and the artefacts they had chosen and annotated, there was some disquiet and nerves on the part of those sharing their work with people they knew and people they did not know. Despite the nerves, which were evident by verbal comments such as “you go first” and “I don’t mind if we don’t have time for mine”, and non-verbal responses such as an obvious reluctance to stand up and log in to their websites and showcase, many PSTs ultimately found the experience affirming. When they resumed their seat, the PSTs realised that much of what they had done had been helpful to others and sometimes, what they had produced was quite unique. One student commented: “It was good to see my peers’ Weeblies”. Another said “It was good to show others from another campus how the e-Portfolio works”. In this instance, Aboriginal PSTs were sharing knowledge and evidence of practice. Their authority as teachers was therefore highlighted based on their performance as people with propositional and applied professional knowledge deriving from their professional education and experience rather than their cultural background.

• The PSTs also found that sharing the types of artefacts used to demonstrate standards and the ways in which these could be mounted digitally on a website was very helpful. When asked what they felt they had learned through the video-conferences, the PSTs gave the following responses: a) how to make PowerPoint in Media and how to scan pictures; b) how to use slide shows in the e-Portfolio; c) learning how to access Weebly Pro. The participants were also able to see the benefit of e-Portfolios generally, as the following comment conveys: “The e-Portfolio is a good way to share my professional development and career progress information”.

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Conclusion

The reality of establishing inter-university collaboration between PSTs proved somewhat difficult. Clusters of PSTs would perhaps be possible if the timing of meetings was simultaneously timetabled for PSTs across institutions. Regional clusters were unnecessary given that virtual face-to-face could be used. Hence, it was determined that meeting together face-to-face or virtually face-to-face using video-conferencing and Skype™ was profitable for sharing suitable digital artefacts for e-Portfolio construction when the following conditions were met:

- Technology was supported by strong broadband and was easy to use so that conversations were not hindered by drop-outs or unstable internet connections.
- PSTs were at the same point in their learning journey. This was important to ensure that PSTs had a similar number of professional experiences behind them in order to make equal connections.
- PST and teacher education staff shared the same priorities. For example, the priority of the PSTs during practicum was first and foremost to achieve a good report. For this reason, selecting and discussing artefacts suitable for inclusion in their e-Portfolio was lower on their list of things to do until preparing their e-Portfolio assignment submission after the placement. For lecturing staff, encouraging PSTs to recognise that practicum was a crucial time to collect and start to annotate useful artefacts was of key significance, and, as we discuss later, has led to us rethinking the role of the supervising or mentor teacher in the practicum situation.

When these conditions were met, the experiences of PSTs and the staff involved was rich, exciting and meaningful and resulted in well-selected digital artefacts being shared, discussed and celebrated.
Chapter 8

Developing an on-line professional connected community that supports quality teaching, e-Portfolio development and promotes Aboriginal participation in education

Introduction

Bringing together academics and PSTs from different universities to establish a connected, professional learning community and resource bank was both an immediate and an ongoing, long-term goal of the project. To achieve this goal, the project team investigated a range of online resources, as summarised in Table 7. The resources developed in this project are currently stored at the project’s website (www.badanami.weebly.com) as a legacy of an online community of practice, initiated by the original participants but also open to other pre-service and beginning teachers in similar regional and remote teaching contexts. Further, this aligns with the project guidelines that called for three attributes i) to better serve the virtual community; ii) to provide a repository for the results of the project, and iii) to create a virtual space in which a community of teachers can grow and to respond to emerging professional needs of the engaged community. A second website, which builds on this project, is planned for publication in 2014; www.aptseportfolio.edu.au.

During the development stage of the project, a number of methods for sharing teaching practice between the disparate communities of PSTs were trialled. The utilisation of digital technologies was seen as a key element in overcoming geographical distance and increasing the sharing of quality teaching practice within, between and by PSTs, particularly for those in isolated Indigenous communities. Some of the online applications had license fees or other costs and some followed the traditional Internet model of being free at the introductory level with modest costs associated with increased features and number of users.

Table 7: Reasons for Selection or Rejection of Software

<table>
<thead>
<tr>
<th>Software</th>
<th>Reasons for selection or rejection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pebble Pad</td>
<td>A personal learning space most often used for the creation and sharing of e-Portfolios. One of the participating institutions had a license for this program and was using it with their students. As the other institutions did not have the required licenses, this program was not used across the project.</td>
</tr>
<tr>
<td>VTeam</td>
<td>A locally developed and managed private social network platform. It was evaluated and not adopted because of its specialised nature and the initial and ongoing costs.</td>
</tr>
<tr>
<td>Elluminate</td>
<td>A web conferencing program developed by Elluminate Inc. based around the concept of virtual rooms or ‘vSpaces’ designed as online meeting spaces for businesses or schools. This program was trialled with staff from one of the participating institutions but rejected because of the relatively high learning curve required and the ongoing cost.</td>
</tr>
</tbody>
</table>
| Weebly     | A web-based website builder. It was chosen as the e-Portfolio building tool for the project because of its simplicity of use, the availability of a
cost free option and the flexibility for incorporating different media into the websites created. Flexibility was considered important to allow for the easier inclusion of evidence of teaching practice in a greater variety of forms. A Weebly manual was developed.

| Skype™ | This program was chosen because of its universal availability and flexibility. A simple Skype™ manual was prepared to assist PSTs who were not already using this program. |

The software trials identified it would be best to deploy software that was freely available and simple to use. Free availability meant either free to download and install on the PST’s personal computers or available as a free to use web site. Simplicity was seen as important because this would reduce training time and promote autonomy. In addition, it was assumed that the PSTs would have access to software ubiquitously available on most computers such as email clients or presentation software. The role of Facebook was reported as being significant for some groups of PSTs. It was a platform for communication the students were comfortable and familiar with and it was used independently by some PSTs to meet project purposes.

Strategies

The strengths and weaknesses of the digital resources used in this project were central to achieving the project outcomes. An ultimate purpose however, was to create a professional connected community to help overcome the isolation created by geographically distributed professional experience locations and to encourage mutual support for the participants across the project.

As described earlier in this report, a training program familiarised the PSTs with the digital resources. This was designed to help them develop and present evidence of their achievement of Professional Standards for Graduate Teachers, thereby enabling them to demonstrate their readiness for employment in the teaching profession. In addition, there was a program of working with PSTs, both at their home institutions and in their professional experience locations.

The software was chosen as an enabling technology that would allow the collaboration to succeed. Thus the digital technologies employed throughout the project, in particular, video-conferencing, Skype™ and email were used to bridge distance between team members and PST participants. The Weebly site was employed to disseminate project information to the team, the reference group and to the teacher education community while the sites the PSTs created were a means to support standards assessment and e-Portfolio development.

Skype™
This program was chosen as the tool to assist PSTs to maintain communication with each other and with lecturers from their institutions. It was decided that lecturers who were supervising a cluster of PSTs would have Premium versions of the software and that all PSTs and university staff would be supplied with a microphone headset to improve the audio quality. These measures were taken to try to minimise the technical difficulties with using
Skype™ in locations with poor internet connection. The person with a Premium version of Skype™ could initiate multi-location conferences. Anecdotally, it was reported that other social media and email were used when Skype™ or internet connectivity was not available.

Weebly
Whilst Weebly was chosen primarily as an e-Portfolio building tool for the PSTs, it was also put to other uses. Early in the project, a Weebly site was set up to aid communication between the academic staff involved in the project. About this time, a student from one of the universities was employed to create a manual for the PSTs to assist them in their creation of Weebly e-Portfolio sites. This manual supplemented the available online documentation.

The initial Weebly site was used as a repository for documents from across the three institutions. The PSTs were also able to access the site to give information about the project. A sample e-Portfolio Weebly site was also created by the Project Leader to serve as an example and as an instructional tool for the PSTs. Other project team members also created their own Weebly sites to model e-Portfolio construction.

The use of Weebly as the web site development tool was justified on a number of grounds. First, this development site was selected as a resource that could be delivered to and used by the project participants whenever they were able to use digital resources. While the academic participants were supplied with digital resources, this could not extend to PST participants. Given that they had a personal computer and/or access to one at home or in their school they could use Weebly to build and share their e-Portfolio. Second, Weebly was chosen because it was relatively easy for novice users to adopt it to the purpose of building an e-Portfolio. The purpose of these digital documents was to help the PSTs to reflect deeply on their evolving teaching practice and understandings of their role as a teacher. It was important that the tool they used to construct their e-Portfolio was easy use and did not distract them from their consideration of their professional roles.

As the project progressed, Weebly was employed for different purposes. Both PSTs and the academic participants used Weebly to build e-Portfolios for personal purposes. Project personnel used Weebly to set up a number of demonstration sites. When the time came to present papers at academic conferences, a Weebly site was used to showcase the project findings to date. Finally, a Weebly site was created to serve as a repository for the project documentation, research findings and project deliverables.

One of the aims of the project was to facilitate the continuation of a community of PSTs and beginning teachers. While Weebly could provide websites for individuals it was not designed to create a site that would support a continuing community. Thus the successful and varied experiences of using Weebly assisted the participants to determine and refine the design for the website that would be used to maintain the project after the funding time-frame had expired. The project had adopted an action research methodology to help resolve the challenges of assisting different student groups to work in different university programs while in urban, regional and remote locations.

During the project other repository sites created by similar projects were investigated. One exemplar was the Renewing Rural and Regional Teacher Education Curriculum Project site
This site provided a set of blended learning modules designed to prepare beginning teachers to work in remote locations and to allow individuals to browse a library of resources. The present project sought to support beginning teachers’ reflections on their practice and their work towards achieving the mandatory Teaching Standards. As such, the design elements of a site that provides ongoing support to a community of PSTs and beginning teachers differentiates this project from other similar projects and sites.

The expanded possibilities of a site commercially produced by Solutions Outsourced and based on the Siteflex Professional Package met the three attributes the project guidelines called for; i) to better serve the virtual community; ii) to provide a repository for the results of the project, and iii) to create a virtual space in which a community of teachers can grow and to respond to emerging professional needs of the engaged community. The Siteflex package has been purchased for an initial two-year period. The site has been populated with the range of resources developed as project deliverables and maintained to deliver a fresh and evolving experience for the teachers who visit. The package allows for individualised or group responses to initiatives from the community. Further, the site can be managed by relatively inexperienced project participants who can also vary the day-to-day appearance and content of the site as needed.

Table 8: On-line Learning Community technologies and resources

<table>
<thead>
<tr>
<th>Project Stage</th>
<th>Communication Technologies and e-Portfolio software</th>
<th>Associated resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Genesis and Draft 2010</td>
<td>Email, Pebble Pad, VTeam, Elluminate</td>
<td></td>
</tr>
<tr>
<td>Project Submission October 2010</td>
<td>Video-conference, Skype™, Weebly</td>
<td>Weebly Manual</td>
</tr>
<tr>
<td>Project Implementation December 2010</td>
<td>Institution provided Video-conference Skype™ Premium, Weebly, Weebly Pro, Weebly Campus (<a href="http://www.badanami.weebly.com">www.badanami.weebly.com</a>)</td>
<td>PST Conference presentations Teaching Standards Proformas e-Portfolio examples Skype™ manual</td>
</tr>
<tr>
<td>Project Finalisation August 2012</td>
<td>Skype™ Premium, Weebly Campus</td>
<td>e-Portfolio examples</td>
</tr>
<tr>
<td>September 2012 to 2014 and beyond</td>
<td><a href="http://www.apsteportfolio.edu.au">www.apsteportfolio.edu.au</a></td>
<td>Solutions Outsourced Siteflex package</td>
</tr>
</tbody>
</table>

Issues

Various challenges arose during the implementation of the project. There were some difficulties associated with the use of Weebly suite to support the development of the PSTs’ e-Portfolios. These fell into three areas. First, Weebly’s business model is based on automated web based support. It was therefore difficult to obtain answers to questions not covered in the Frequently Asked Question support screens. Second, we needed to tailor the available additional feature sets to the purposes of this project. The creation of the e-
Portfolios required layers of website creation that the additional features in Weebly Pro provided. This level of functionality was best delivered to a large group of end users by using the Weebly Campus structure. It was difficult to clarify how this structure could be deployed to academics and PSTs across multiple university and practicum sites. The third difficulty was the challenge of assisting project participants to transport their e-Portfolio sites to other platforms. While they were able to keep the sites they had developed as free Weebly sites, they would need to take over payment for the additional content creation features should they wish to continue to develop their sites as their teaching career evolved. While it is possible to archive a Weebly site it was not clear if the file could be used outside the Weebly framework. There was no specialist web-designer on the project team and though suitability issues were investigated during the drafting of the project, these particular difficulties were not foreseen. It could be argued that if one of the more complex and specialised software options had been chosen the difficulties of tailoring an e-Portfolio tool to this project’s contingences would also have been more complex.

Another challenge in implementing the project was coming to agreements around matching the timeline of the project to individual institution’s teaching and professional experience practices and different communication strategies. This resulted in varied processes for the take-up of the project in different institutions. This also tended to mean that the application of the action research framework was applied within each institution more than across similar PST cohorts from all the institutions.

Further, cross-institutional virtual collaboration did not work well for individual PSTs. Communication between PSTs at different locations was more successful when it was part of a whole group conference linking two institutions via video-conferencing facilities. The practice of using Skype™ at these events was successful but this did not transfer to times when PSTs undertook practicum. The PST Weebly e-Portfolios developed later in the project provided another opportunity for PSTs to share their understanding of quality teaching practice while in their practicum locations. The expected sharing of e-Portfolio URLs and commentary was not reported.

While the project did stimulate the beginning of a small online community this has not occurred at the cross-institutional level initially envisioned. It was thought that the common interest and mutual support that such a connection could give PSTs would motivate them to maintain the contact introduced in the project. This has not been evidenced.

Nor was within-institution collaboration stimulated for the PST participants. This may be because participation in the project was an extension of the PSTs’ usual work within each institution and/or the collaboration within each cohort at each location was of a higher order than across institutions. This was particularly so in the use of the Weebly site as it was evident that the site was used by each participating PST to successfully complete the e-Portfolio assessment requirements of the units in which they were studying. There was also evidence that some PSTs used the Weebly site for additional personal and professional purposes, for example to plan a wedding and develop a professional student site.

PSTs at different locations did evolve their use of the suggested communication software. At Dubbo, for example, within cohort collaboration was conducted mainly using social media sites such as Facebook. There was some stimulus from their involvement in the project but
PSTs tended to extend the use of a technology with which they were familiar. The second round of UWS volunteers took up the use of Skype™ more than their predecessors because of their involvement in the project.

Conclusion

The chosen digital technologies employed throughout the project, in particular, video-conferencing, Skype™ and email enabled PST participants and project team members to collaborate between them. The Weebly software was relatively easy to use the site created for the project was effective in disseminating project information to the team, the reference group and to the teacher education community while the sites the PSTs created were a means to support standards assessment and e-Portfolio development.

The project website, created during the implementation of the project will remain live at www.badanami.weebly.com. It is envisaged that this site will be supplemented in 2014 by the professionally developed website www.aptseportfolio.edu.au. Once established, this site will be advertised to all universities and accreditation jurisdictions so that graduate and beginning teachers are aware of the resources available to support the teaching accreditation process. The main reason for this development is the greater opportunity this site could provide to allow for social networking although some project participants may use other platforms such as face-book to maintain networks.
Chapter 9

Conclusion and Recommendations

A number of lessons have been learned during the planning and implementation of the project. This sections details factors that were critical to the success of the project and also identifies factors that hindered the project. A set of recommendations for various stakeholders concludes the section.

The implementation of accountability standards within the teaching profession requires pre-service education courses to prepare graduates who can clearly and effectively demonstrate achievement of the AITSL Australian Professional Standards for Graduate Teachers. To effectively demonstrate achievement of professional standards, graduates need to have skills that enable them to select and annotate evidence at the level of ‘teaching competence’ when they are working in their first years of teaching. This project aimed to ensure that the participating PSTs were able to increase their knowledge and understanding about professional standards and reflection on practice through a supported process of selecting and annotating evidence of their competence in the language of the standards. The selection and documentation of relevant artefacts of the PSTs teaching practice and the use of critical analytic skills to produce an e-Portfolio allowed them to effectively present evidence of achieving professional teaching standards at a graduate level. The use of digital technologies and the involvement of both Aboriginal and other PST cohorts further enhanced the outcomes of the project as they reached across the range of graduate teacher standards.

At the heart of this project lay the aim to support PSTs in assessing their achievement of professional teaching standards during their practicum placements. The practicum is where PSTs often make most sense of the professional teaching standards in terms of their own practice. It is also the base from which artefacts can be selected. All the project activities (i.e. the inter-university collaborations and conferences, support telephone calls, Skyping™, interviews, discussions and e-Portfolios) led to, and engaged with PSTs’ experiences in the practicum classroom, school and community. To this end, the deliverables created in this project focused primarily upon supporting PSTs in their reflection on practice and in their assessment of professional teaching standards. This project supported the classroom experiences of the participating PSTs prior to, during and after practicum, thus providing them with essential tools for beginning their teaching career.

Factors critical to success

Factors critical to the success of the project included strong leadership of the Project team, the willingness and flexibility of all participants to engage with the project aims, the use of digital technologies and the strong communication between all those involved in the project, including the External Evaluator. External evaluation of the project identified the Project Leader’s approach to the project and working with the team as a critical factor in the success of the project; “he was strong committed to collaboration and modeled this throughout the project” (Chesterton, 2012). Collaboration required persistence given that
there were difficulties when drawing on staff from three different universities and four campuses, all separated by some distance. Additionally, from the outset, communication about the project was transparent. All staff received emails and documentation regardless of perceived involvement at various times throughout the life of the project. Research data, project materials, presentations and papers were also shared as soon as they became available.

The frequency and priority the Project Team gave to meeting face-to-face enhanced communication and promoted strong relationship building throughout the project. Due to the nature of the Project Team’s university locations, meeting together usually required at least one overnight stay and several meals together. The opportunity to meet and work together informally greatly enhanced the team dynamics and promoted goodwill and understanding among team members.

The flexibility of all those involved was a key factor in the success of the project. The project team members and the PST participants demonstrated flexibility when project assumptions were challenged or changes in implementing the action research processes were necessary.

The use of digital technologies was a critical factor in the implementation and success of the project. Video-conferencing, Skype™ and email were effectively used to bridge distances between team members and participants, to disseminate project information to the Project Team and Reference Committee, to the teacher education community and via the website. These digital technologies were also used to support standards assessment and e-Portfolio development.

The contributions of Aboriginal members of the team and Aboriginal leaders in PST workshops provided expertise in Aboriginal knowledge systems, practices, and protocols, thereby deepening participants’ understanding in these areas. Such understandings are vital in creating guidelines for all teacher education courses in the preparation of PSTs for teaching contexts that include Aboriginal students.

The incorporation of formative evaluation throughout the project on its implementation, planning and achievements enabled timely and flexible modifications to occur. The Project Team is indebted to the External Evaluator who provided progress evaluation reports and posed questions throughout the duration of the project. This facilitated staff reflection and prompted adaptations and changes that facilitated the informative results of the project.

Unexpected successes in the project emerged from the work completed with the PSTs in the May 2011 conferences. In particular, the PSTs’ deepening cultural awareness developed collegially and led to an increased desire among PSTs and project team members to learn more of cultural competence when interacting with Aboriginal or other Indigenous or Torres Strait Islander school communities. Hence, project materials in the Learning Module found on the project’s website at www.badanami.weebly.com, conference materials and focus group workshops address cultural competence.
Factors that hindered success

Several factors also hindered the project implementation and outcomes. While the involvement of three universities held numerous rewards and enriched the diversity of the project, it is equally important to point out that issues did need to be overcome due to this diversity. The involvement of three universities across four campuses, for example, created challenges, particularly in the alignment of academic calendars for both the staff and PSTs involved. Each university had different academic calendars and therefore began and finished semesters, conducted residential for Aboriginal PSTs, and scheduled practicums at different times of the year. Similarly, each of the PST education courses had slightly different requirements for the unit assessments. The e-Portfolio was an assessment item for two universities but not for the third. Thus it was difficult to ensure a fully consistent approach to e-Portfolios, in the assessments relating to them. The involvement of PST cohorts who were at different stages of study created further challenges yet also benefitted students less progressed in their course.

Finally, the geographical distance between professional experience placements, university staff homes, and university locations meant that there were significant costs incurred in time management and travelling long distances in order to meet.

Findings

Aside from the issues already identified that contributed to or hindered success, other key lessons were learnt from implementing a complex project involving digital technologies, Aboriginal and other cohorts of PSTs and professional teaching standards. There is need for:

- Careful design in timing when working across universities.
- Flexibility to manage unexpected issues during the implementation of the project.
- Recognition that technological access and time constraints can affect the regular and committed involvement of participants.
- Back-up plans are essential for where and when technology fails.
- Personalised support, scaffolds and resources for PSTs during individual professional experience contexts.
- Learning and orientation regarding accreditation processes, standards evidencing, use of digital technology and intercultural understandings prior to PSTs undertaking professional experience.
- Celebration of e-Portfolios that capably demonstrate PSTs’ professional profile and understanding of teachers’ work.
- Inter-university collaboration which is underpinned by maintaining democratic, collaborative interactions among project team members and at project team meetings.
- Informing and forming relationships according to protocols between Aboriginal and other PSTs.
- Modeling professional inter-university relationship, by academics, for PSTs.
- Face-to-face meetings of PSTs and project team academics. Reliance on robust relationships and virtual communities is less successful unless there are opportunities for actual interactions and learning.
Recommendations

The recommendations outlined below stem from the discussion of key issues and the outcomes of the project reported in the preceding chapters. These recommendations aim to assist different users of this information including the Australian Government Department of Education, Employment and Workplace Relations (DEEWR), the Office of Learning and Teaching, providers of PST education courses and teacher education staff who are closely involved with the preparation of PSTs for practicum, and the PSTs themselves.

**Recommendation 1**
AITSL/OLT should consider the provision of targeted support to promote further inter-university collaboration and facilitate the benefits of collaboratively developing tools and resources for PST reflection and self-assessment during practicum, as demonstrated by this project.

**Recommendation 2**
All teacher education programs should provide explicit instruction in familiarising PSTs with the processes of teacher accreditation and the AITSL National Professional Standards for Teachers throughout teacher education courses and prior to practicum placement.

This may be achieved by:
- Incorporating teaching standards into pedagogical coursework.
- Linking teaching standards with learning/teaching tasks.
- Providing models for PSTs in terms of self-assessment.
- Being clear and explicit, as academics, about ways to link PST learning and professional experience with teaching standards accreditation. Preparing for practicum includes a substantial focus on the academic and technological knowledge required to identify, select, collate and annotate evidence and to organise it around the graduate teacher standards.
- Providing opportunities for reflective practice, linked to real contexts such as professional experiences in the practicum.

**Recommendation 3**
Teacher education courses should strongly consider the use of e-Portfolios to evidence professional teaching standards and learning arising from the practicum.

Ways to support for e-Portfolio development may involve:
- Incorporating e-Portfolios into the structures, practices and language of the institution through coursework, assessment and communications among academics and PSTs.
- Introducing coursework on e-Portfolio development in Year 1 of the Teaching Degree and before the first practicum.
- Allowing time for academics and PSTs in e-Portfolio development.
- Scaffolding e-Portfolio learning activities and revisiting the pedagogy of technology and e-Portfolio learning.
- Ensuring there is face-to-face learning in order for PST motivation to occur when blended methodologies are used. This may occur in university-based cluster meetings, conference and focus group sharing and collaboration, and in reflection
activities about lessons observed during practicum in actual, as well as virtual meetings.

- Peer sharing via e-Portfolios across universities to assist PSTs to enhance their capacity to articulate, explain and justify the selection and annotation of evidence of professional teaching standards. This is an effective means by which PSTs may demonstrate progress in teaching. It may also encourage PSTs to identify their own successes, and the successes of their peers in constructing e-Portfolios that have used well-considered and annotated digital artefacts.

- The need for recognition of, and sensitivity to, the potentially confronting nature of sharing artefacts of one’s teaching; care needs to be taken to promote PSTs’ feelings of security and adequacy in cross-cohort meetings.

**Recommendation 4**

Teacher Education courses should make available to all PSTs a full range of digital technologies that are intuitive and accessible such as Microsoft Office programs and open access software like Skype™ and Weebly.

The use of digital technology involves:

- The need to be flexible in choosing, using and abandoning specific communication technology products. While Skype™ is not always appropriate, due to a range of factors from university overload to lack of internet access for PSTs in practicum, standards evidencing can be supported with actual visits to practicum locations or the use of alternative digital technologies.

- The understanding that the potential effectiveness of any specific communication technology product or process ultimately depends on the extent to which intended PST users have access to it at the time and place in which it was meant to be used.

- Personalised support for technology and pedagogy involved in standards evidencing. Individual support of PSTs’ use of digital technology can be realised by telephone, Skype™ and actual meetings with the PSTs during the practicum.

**Recommendation 5**

Teacher Education courses must ensure that Aboriginal and Torres Strait Islander perspectives are taught in teacher education programs and PSTs are encouraged to teach in practicum schools with significant Aboriginal student populations and develop links with local communities.
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University of New England


Appendices

Appendix 1

Guidelines for supporting Pre-Service Teachers in practicum schools with a significant Aboriginal student population

Guideline 1: Inter-university support can be facilitated through:

- Developing a sense of common purpose among different, co-operating universities.
- Creating joint activities which enable participants to share practice and resources.
- Collaborating to support Pre-Service Teachers (PST), including Aboriginal PST. Such collaboration helps promote the development of a social justice agenda which may then shared among previously competing universities.
- Recognising that if universities work together, the benefits will be greater than if universities work separately.
- Developing trust among academics.

Guideline 2: Practices to prepare PST to teach in practicum communities:

- Support PST in their practicum by providing a Practicum Orientation Guide (see Appendix 2) comprising:
  * Information to prepare PST for different contexts.
  * List of Frequently Asked Questions and Answers that PST can address in different school contexts.
  * Provide feedback using the language of the Australian professional standards for teachers.
- Resources, teaching materials and processes, once developed, benefit from being trialed and refined with another cohort or with the same cohort in relation to another practicum reflection.

Guideline 3: Terminology Use:

- Use current and correct terminology in all interactions.
- Aboriginal when referring to Indigenous people from NSW.
- Aboriginal and Torres Strait Islanders in national contexts.
- Non-Indigenous when referring to non-Aboriginal people.
- Use original terms when referring to quoted documents and presentations
- In specific contexts, ask individuals which term they prefer.

Guideline 4: Use of digital technology:

- Use digital technology to support PST, overcome distance and address assessment and cultural competence in the practicum.
- Use open source software such as Weebly and Skype™, which is readily available beyond the university context.
• Circumvent levels of control endemic to university technology systems and financial expense by using freely available software. These technologies can usually be used in isolated practicum locations where there is no university support.

• Use web platforms that are already familiar to PST as familiarity with the platform can assist with effectiveness.

• Use Skype™, video conference and e-Portfolio platforms which have the capacity to establish communication between PSTs and facilitate equitable learning irrespective of culture or age.

• Use Skype™ which is a good vehicle for professional communication between academics separated by distance. It can improve the quality of interactions between academics with regard to mentoring relationships:
  o Skype™ is time efficient when communicating with PST using the strategy of a “Skype tree.”
  o A “Skype tree” evolves when an academic Skypes with a PST who then Skypes with another PST and the process can be repeated in order to reflect upon standards and the practicum.

• Promote effectiveness when using Skype™ and video conferences, by the following strategies:
  o Plan ahead and be explicit about the Skype™ and videoconference proceedings with back up strategies in place.
  o Recognise privacy issues if PST and academics are using Skype™ in their own homes.
  o Provide scaffolds and models that support the use of technology and pedagogy associated with developing e-Portfolios.
  o Provide time for PST to experiment with Weebly, to learn and be creative with tools and functions that construct e-Portfolios.
  o Avoid glitches in using Skype™ by:
    ▪ Removing levels of Skype™ when communication is interrupted. An example is to remove the video in order to sustain the Skype™ audio.
    ▪ Establishing a number of PST as a group, then making one Skype™ group call rather than ringing individuals separately.
    ▪ Ensuring everyone has the same version of Skype™ connection and enhanced audio.
    ▪ Keeping the number of Skype™ users to three for maximum reliability in a single call.

Guideline 5: Build Relationships:
• The ability to develop and sustain good relationships with Aboriginal students and their families is a major element in the profile of effective teachers. Such relationships require:
  o Building rapport and trust.
Getting to know students as individuals.
Exploring possibilities or engaging in activities important to Aboriginal children.
Where possible, forming a basis for good relationships and educational experiences in actual meetings before relying on technology to assist with learning relationships.

Guideline 6: Cultural context and learning:

- Be aware of the cultural context of the practicum and protocols when communicating with Aboriginal students and communities. Do not assume all Aboriginal or Torres Strait Islander school communities will be the same.
- Where possible, research ahead to examine such concepts as the Aboriginal cultural position involving:
  - Spiritualism as a cultural way of knowing.
  - Collectivism as a social way of being.
  - Autonomy as political affirmation of Aboriginal ways of knowing and being.
- When at the school, seek information from appropriate people and Aboriginal personnel that will assist in developing cultural awareness and aid the learning of Aboriginal students.
- Share knowledge, such as that about Aboriginal knowledge systems.

Guideline 7: Tensions emerge from the experiential nature of practicum and learning situations:

- Seek to understand differentiated knowledge between Aboriginal and other cultures as well as differentiated knowledge among different Aboriginal groups.
- Understand the importance of clear respect for the autonomy, ownership and wider social construct relating to Aboriginal people from different geographical areas.
- Be aware and extend the level of cultural competence to manage tentativeness that may be encountered in the practicum among teachers, students and the community.
- Recognise Aboriginal students who are silent might be used to employing silence as thinking time or silence might be a way of managing guardedness.
- Recognise the circumspection that may be involved when silence is encountered in communications with Aboriginal people and accept the silent period as part of the communication process with Aboriginal students.
- Recognise the concept of “shame” in Aboriginal culture:
  - It may mean that an Aboriginal student or an Aboriginal PST may feel ashamed, particularly within their Aboriginal community by being seen as deficit in some way.
  - Shame also involves the idea of not standing out in any way, including achieving too highly. For example, refusal to accept a merit certificate may not be defiance but a reflection of shame for an Aboriginal learner.
• Seek opportunities for Aboriginal PST to undertake practicum in locations that are out of their own Aboriginal country.
• Consider reasons relating to health and value systems if Aboriginal students do not engage during the practicum.
• Find ways of teaching that do not usurp or transgress community values:
  o Aboriginal Elders and personnel can help clarify this understanding.
  o Teachers can invite Aboriginal families and community members to the school to be part of the discussion of ways to recognise achievement.

Guideline 8: Cultural awareness and student needs

Cultural awareness involves a deeper level of consciousness in terms of recognising the needs of students and understanding how to meet those needs in a classroom. Therefore:
• Move from cultural awareness to cultural competence in the practicum by involving actions, skill and capacity development, in addition to consciousness.
• Recognise that the practicum context involves the PST catering for students’ immediate needs. Cultural competence can arise from acquiring lived experience and learning in response to a particular teaching context.
• Acknowledge that students’ needs drive their actions, informed by experience and knowledge sharing with appropriate people. Needs may be in relation to levels of engagement with learning, attendance or peer and teacher interactions.
Appendix 2

Practicum Orientation Guide - Frequently Asked Questions

This guide aims to prepare Pre-Service Teachers by giving them, ahead of the practicum, a process or response in relation to questions frequently asked about the context of the practicum school

Evidencing Standards in the Practicum

1. What if some Focus Areas are met and others not?

   It is not expected that every artefact or chosen evidence will exhibit every Focus Area of every standard. One piece of evidence may, however, reflect several standards or Focus Areas.

2. What if a Focus Area is less evident in a specific school context?

   Standards assessment is grounded in reality. Choose evidence that is authentic and from the practicum situation. Another practicum context may provide you with evidence to address different Focus Areas or some Focus Areas may be addressed by closely examining the wording of the Graduate Standards. These often require knowledge of an aspect of teaching, as opposed to application or leadership.

3. How do I use one artefact as evidence for several standards? If I want my lesson/s to show quite a few different standards how can I make that clear?

   Use different colours, fonts, coding or comment boxes in your e-Portfolio and briefly explain how one artefact is being used to evidence several standards. Use technical aspects of Word such as reviewing tools or text boxes to highlight specific parts of the artefact.

4. How do I maintain privacy and confidentiality when using artefacts from the practicum in my ePortfolio?

   a. If I want to photograph the way in which I have used students’ work to display in the classroom how can I protect their privacy?
   b. Can I use photos of my students conducting role-plays as an example of a different type of assessment strategy?

   Permission notes from parents may be required and these can be developed with your Supervising Teacher, at the school. Verify what the school and system policy is with regard to use of student work samples or images.

5. How do I make links between artefacts and standards?

   Use explanations and annotations. Examples of these are included in Appendix 4, Guided Self-Assessment on Teaching a Lesson during Practicum.
6. What additional inclusions could I add to my e-Portfolio content?
   A teaching philosophy, a unit of work designed for university and referencing could be included in your ePortfolio.

Orientation to the Practicum School Community

7. How do I find out the main cultural backgrounds, attendance data and other relevant facts about my practicum school community?
   The MySchool website, Annual School Reports, state education authority and individual school websites provide publicly available information about individual schools.

8. Who are the people in the community that I need to meet in order to understand more about the students I will teach and the Aboriginal or Torres Strait Islander school community?
   The Aboriginal school personnel can assist with regard to establishing contact with Aboriginal and Torres Strait Islander school communities and the protocols that guide communication and teaching.

Use of Technology in the practicum school

9. Do I have to pay if I photocopy something?
   All schools have their systems of access to photocopying and these will be different in each school. You will not have to pay but you will need to ask the clerical staff and your supervisor how you can access the photocopy system and what restrictions you might have to observe.

10. How can I find out what technology such as interactive whiteboards or data projectors are available in the practicum school?
    Each school will have different levels of resources and available technology. Ask your Supervising Teacher, the clerical staff or the technology co-ordinators how to use or access available technology.

11. What technical aspects of Weebly or Skype™ are available in the development of my e-Portfolio for standards assessment in or after the practicum?
    Consult the Weebly and Skype™ Manuals available in the Learning Module.
Appendix 3

Flowchart for Pre-Service Teachers’ Reflection during the Practicum

Plan, prepare and teach a lesson

Use scaffolded questions/activities in personal reflection

Meet with supervising teachers and discuss lesson in terms of meeting professional teaching standards, using the reflections and guides

Contact teaching colleagues and take turns to review each lesson and reflect, using actual meetings, Skype, connected classrooms or phone
Appendix 4

Guided Self-Assessment on Teaching a Lesson during Practicum

Addressing the Australian Professional Standards for Teaching

This resource comprises a series of reflective activities which may be used by the PST to guide self-reflection or a reflective conversation between the PST and peers, mentors or teaching supervisors.

Introduction and purpose

The purpose of this activity is to critically reflect on a lesson, with emphasis on the deep knowledge that is addressed in the lesson and in evidencing the Australian Standards for Teaching.

The 2004-2007 research study entitled Systemic Implications of Pedagogy and Achievement in NSW Public Schools (SIPA) examined the effectiveness of teaching practice that aligns with pedagogy. The findings of the study clearly show that student achievement improves when students’ learning experiences are focused on intellectual quality with clear and high expectations of the work required of students (Amosa, Ladwig, Griffiths, & Gore, 2007).

The guided Reflections have been developed with reference to the Australian Professional Teaching Standards, the 5E Framework (Bybee et al, 2006) and the MeE Framework (Munns, Sawyer & Cole, 2012).

Target audience

Pre-service teachers

The Process of Using the Guided Self-Assessment on Teaching a Lesson during Practicum:

- During the practicum, focus on a lesson that you have recently taught. Referring to the Guided Self-Assessment, use the questions which target ways to address and evidence the Australian Professional Teaching Standards. Graduate Standards 1-5 are the subject of the Reflections because these standards are more likely to be addressed during the practicum. Where relevant, there is reference to Australian National Graduate Standards 6 and 7.

- Consider:

  o The preparation, strategies and resources necessary for students to be engaged, to explore, explain, elaborate on and evaluate their learning - the 5E Framework (Bybee et al, 2006).
  o The extent to which your lesson reflects the three dimensions and the elements of the Quality Teaching Framework (NSW DET, 2003).
  o The learning experiences and extent of engaging messages about the students’ knowledge, ability, control, place and voice, components of the MeE Framework (Munns, Sawyer & Cole, 2012).

- Apply this process to each of the Australian Teaching Graduate Standards 1-7, as indicated in each Guided Self-Assessment.

- Use the records and teaching materials derived from your reflection about the practicum and select appropriate examples as evidence to develop your e-Portfolio. The annotation on evidence which emerged from the practicum and the guided self-assessments can be done after the practicum and during the development of the e-Portfolio.
e-Portfolio Development after the Practicum:

e-Portfolio development involves the process of using feedback, reflection, guided self-assessment, teaching materials and data collected in the practicum to select evidence which will be annotated and used in constructing the ePortfolio. The process for constructing an e-Portfolio is as follows:

- Select clear examples of your teaching processes, skills and knowledge to use as accreditation evidence. These examples might include:
  - Lesson plans, teaching materials and de-identified work samples.
  - Feedback and reflections on the lessons.
- Annotate the specific evidence that best illustrates a Focus Area of the standard you are evidencing. For example, From this evidence:
  - I learnt….. I now realise….. I have diversified my thinking through....
  - I now understand the concepts of.....
  - It is evident I have applied.... in the contexts of teaching strategies/pedagogy/marking/assessment/reporting.
  - It can be seen I changed/would change my teaching practice......... in order to improve.... It can be seen that I met the standard by....
- Attach the annotation to the evidence by using Microsoft Word Review tools or their equivalents.

References


Guided Self-Assessment on Teaching a Lesson during Practicum

Addressing the Australian Professional Standards for Teaching

Standard 1

Link to Professional Teaching Standards at the Graduate Stage

Australian Teaching Standard 1 – Know students and how they learn

Focus Areas

1.1 Physical, social and intellectual development and characteristics of students:

- How did I demonstrate knowledge and understanding of physical, social, and intellectual development, characteristics of the students and the ways these affect learning?
- What different opportunities were students given to show understanding and negotiate their learning?
- How did the lesson design allow students with different needs and abilities to achieve deep knowledge?

1.2 Understand how students learn

- How did I demonstrate knowledge and understanding of research into how students learn and the implications for teaching?
- How did I design my teaching so that students could apply, analyse, synthesise or evaluate knowledge?

1.3 Students with diverse linguistic, cultural, religious and socioeconomic backgrounds

- How did I demonstrate knowledge of teaching strategies that are responsive to the language and learning strengths and needs of students from diverse backgrounds?

1.4 Strategies for teaching Aboriginal and Torres Strait Islander students

- How many Aboriginal or Torres Strait Islander students did I have in the class?
- How did I demonstrate broad knowledge of the impact of culture, identity and linguistic background on the education of Aboriginal and Torres Strait Islander students to Indigenous and non-Indigenous students?
  - What aspects of culture, identity or language are demonstrated in my lesson?
- How did my lesson demonstrate that social and cultural backgrounds are valued?
- How were the language and literacy demands of the tasks modeled and taught explicitly and systematically?

1.5 Differentiate teaching to meet the specific learning needs of students across the full range of abilities

- What strategies did I use to differentiate teaching and cater for individual learning needs of students? Consider:
  - strategies in mixed ability or composite classes.
  - remedial and extension activities.
  - literacy and numeracy strategies for different ability levels.
  - digital resources and tools that are matched to strategies to meet students’ learning needs, abilities and backgrounds.

1.6 Strategies to support full participation of students with disability

- Did I have any students with disability in my class?
• If so, what strategies were in place to support the learning needs of students with disability?
• How were the activities designed to allow all students to be persistent, complete work and recognise their own and their peers’ achievement?

What engaging messages have I given to the students about:
• Knowledge:
  o How do I know that students saw the connection and meaning in the learning?
  o How has my teaching engaged students’ ability to think about a concept or topic?
• Ability:
  o How do I know if the students believed that they are capable? What expectations did I set?
  o What did the students do or produce?
  o What did I say to the students to get them to believe in their self-efficacy?
• Control:
  o How do I know if the students felt they could negotiate learning and share control with their peers and myself as teacher?
• Place:
  o How do I know if the students felt a sense of belonging and ownership in my class?
• Voice:
  o How were the students given time, opportunities and resources to reflect on and communicate about their learning?
  o How did I allow time for students to have a trial run, a draft version with their learning, to think about what they should do or change?

Evaluation of Standards Met:
• How did the lesson demonstrate Standard 1?
  o Which of the focus areas is best demonstrated in this lesson?
  o What artefact, example or indicator is used to evidence this standard?
• What were the major challenges in addressing these focus areas of Standard 1 in the lesson?
• What might I do differently next time?
• How can I build on the outcomes of the original lesson?
• To what extent is Standard 1 met as a result of completing this activity?
• How has this reflection assisted me to meet:
  o Standard 6.2, Engage in professional learning and improve practice – understand relevant and appropriate sources of professional learning for teachers.
○ Standard 6.3, Engage with colleagues and improve practice – seek and apply constructive feedback from supervisors and teachers to improve practice?

This activity provides evidence of my capability to meet Standard 1. Underline whichever applies:

My capability is not evident / developing / evident

Date:
Guided Self-Assessment on Teaching a Lesson during Practicum
Addressing the Australian Professional Standards for Teaching
Standard 2

Link to Professional Teaching Standards at the Graduate Stage
Australian Teaching Standard 2 - *Know the content and how to teach it*

Focus Areas

2.1 *Demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area.*

2.2 *Organise content into an effective learning and teaching sequence.*

2.3 *Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.*

2.4 *Demonstrate broad knowledge of, understanding of and respect for Aboriginal and Torres Strait Islander histories, cultures and languages.*

2.5 *Know and understand literacy and numeracy teaching strategies and their application in teaching areas.*

2.6 *Implement teaching strategies for using ICT to expand curriculum learning opportunities for students.*

How did I engage the students?

- What did I do at the start of the lesson to get students interested in the topic and key concepts?
- How did I provide affective experiences and intrigue the students, arouse their curiosity or evoke their imagination?
  - What visual or auditory resources, kinaesthetic activity, narrative, communication or questioning skills did I employ?
- Was the lesson purpose clearly articulated?
- Were the key concepts, lesson goals and expectations clearly outlined? (identified from syllabus outcomes and content)
- How did I elicit students’ prior knowledge of the topic or the learning processes?
- How did this lesson connect with the previous lesson?
- How did I demonstrate my ability to use a range of digital resources and tools in ways that enable deeper engagement with curriculum and support a range of approaches to learning?

How did the students explore the learning?

- What new words or ideas did students work with in this lesson?
- What opportunities were students given to understand the key concepts of this lesson?
- To what extent was the learning cognitive, with high levels of intellectual quality, higher order thinking and problem solving?
- What did the students do to develop the concepts of the lesson?
• How did the learning connect with students’ real life experiences or link to the wider world?

• How was the learning progressed by an operative activity where the students participated by doing or using resources relevant to the lesson?

**How did the students explain the concepts they explored in the lesson?**

• How did the lesson design use teacher questioning and give opportunity for students to explain and articulate their understanding?

• How did this lead to substantive conversation among the students and between the students and teacher?

• To what extent did I need to recap, clarify and refine the students’ understanding so they were ready for the next lesson sequence?

• What did the students do to record what they learnt and show their understanding of the concepts?

• How have the students used the metalanguage of the learning?

**How did the students elaborate on their learning?**

• How did I build challenge into the lesson in order to consolidate the concepts and develop them further?

• What activities did I design to:
  o Help students apply what they learnt?
  o Further develop understanding?
  o Use higher order thinking?
  o Solve problems, analyse and synthesise?

**How did I position students to evaluate their learning?**

• How did the students provide feedback on what they learnt and produced?

• At what points in the lesson could I identify:
  o That students with different abilities had achieved?
  o How well the students had learnt, based on what the students said or produced?

• What metacognitive activity did I use to ensure the students knew they had achieved and I could judge to what extent the learning outcomes had been met?

**What engaging messages have I given to the students relating to:**

**Knowledge:**

• How do I know that students saw the connection and meaning in the learning?

**Ability:**

• How do I know if the students believed that they are capable? What scaffolds assisted the students to learn?

**Control:**

• How do I know if the students felt they could negotiate learning and share control with their peers and myself as teacher?
  o What choices for students were incorporated in the learning?
Place:
- How do I know if the students felt a sense of belonging and ownership in my class?

Voice:
- How were the students given time, opportunities and resources to reflect on and communicate about their learning?

Evaluation of Standards Met:
- How did the lesson demonstrate Standard 2?
  - Which of the focus areas is best demonstrated in this lesson?
- To what extent is Standard 2 met as a result of completing this activity?
- What might I do differently next time?
- What key areas do I need to follow up in future lessons?
- How has this reflection assisted me to meet:
  - Standard 6.2, Engage in professional learning and improve practice – understand relevant and appropriate sources of professional learning for teachers?
  - Standard 6.3, Engage with colleagues and improve practice – seek and apply constructive feedback from supervisors and teachers to improve practice?

This activity provides evidence of my capability to meet Standard 2. Underline whichever applies:

My capability is not evident / developing / evident

Date:
Guided Self-Assessment on Teaching a Lesson during Practicum
Addressing the Australian Professional Standards for Teaching
*Standard 3*

**Link to Professional Teaching Standards at the Graduate Stage**

**Australian Teaching Standard 3** – Plan for and implement effective teaching and learning

**Focus Areas**

3.1 Establish challenging learning goals.

3.2 Plan lesson sequences using knowledge of student learning, content and effective teaching strategies.

3.3 Use teaching strategies.

3.4 Select and use resources.

3.5 Use effective classroom communication.

3.6 Evaluate and improve teaching programs.

3.7 Engage parents/carers in educative process.

**How did I engage the students?**

- How did I set learning goals that provided achievable challenges for students of varying abilities and characteristics?
- How did I organise key concepts or big ideas, identified in the syllabus, into related sequences?
- How did I design activities that required sustained focus on the key concepts?
- How did I design learning experiences that built skills and processes that supported students to grasp the key concepts?
- How did I demonstrate knowledge and understanding of how the use of digital resources and tools can support approaches to teaching that enable all students to pursue their individual curiosity, set their own educational goals, manage their own learning, choose the way they respond to tasks and challenges, and assess their own progress?

**How did the students explore the learning?**

- How did you use teaching strategies and select resources that:
  - had relevance for students?
  - reflected the diversity of students in my classroom?
  - linked to students’ prior learning and backgrounds?
  - linked to out-of-school contexts?

**How did the students explain the concepts they explored in the lesson?**

- How did I design activities that allowed the students to:
  - contribute and collaborate?
  - include teamwork, active listening, and constructive feedback?
o have multiple pathways to demonstrate achievement of learning outcomes, e.g. performances, journalism, portfolios, models, presentations, technology use?

**How did the students elaborate on their learning?**
- What explicit criteria and models for the quality of student work did I provide?
- What challenges did I incorporate into the students’ learning?

**How did I position students to evaluate their learning?**
- What opportunities did I give students to evaluate their achievement and process the information they learnt?

**Student Engagement**
- Knowledge:
  o How do I know that students saw the connection and meaning in the learning?
- Ability:
  o How do I know if the students believed that they are capable? What scaffolds assisted the students to learn?
- Control:
  o How do I know if the students felt they could negotiate learning and share control with their peers and myself as teacher?
- Place:
  o How do I know if the students felt a sense of belonging and ownership in my class?
- Voice:
  o How were the students given time, opportunities and resources to reflect on and communicate about their learning?

**Evaluation of Standards Met:**
- How did the lesson demonstrate Standard 3?
  o Which of these focus areas is best demonstrated in this lesson?
- To what extent is Standard 3 met as a result of completing this activity?
- What might I do differently next time?
- How has this reflection assisted me to meet:

This activity provides evidence of my capability to meet Standard 3. Underline whichever applies:

My capability is not evident / developing / evident

Date:
Guided Self-Assessment on Teaching a Lesson during Practicum
Addressing the Australian Professional Standards for Teaching
*Standard 4*

**Link to Professional Teaching Standards at the Graduate Stage**

*Australian Teaching Standard 4* – Create and maintain supportive and safe learning environments

**Focus Areas**

4.1 Support student participation.

4.2 Manage classroom activities.

4.3 Manage challenging behavior.

4.4 Maintain student safety.

4.5 Use ICT safely, responsibly and ethically.

**How did I engage the students?**

- How did I use teaching strategies and select resources that supported:
  - inclusive student participation and engagement in classroom activities?
  - student participation by selecting and sequencing available digital materials?

**How did the students explore the learning?**

How did I

- connect the learning with the students’ real world?
- demonstrate an understanding of the relevant issues and strategies available to manage student access to ICT in learning and teaching?

**How did the students explain the concepts they explored in the lesson?**

- How did I teach using practical approaches to manage challenging behaviours?

**How did the students elaborate on their learning?**

How did I

- scaffold activities, use models and give clear directions to organise classroom activities?
- encourage responsible social interactions when managing challenging behaviours?

**How did I position students to evaluate their learning?**

- How did I assist students to evaluate and articulate risks to their safety or well-being associated with their own behaviour or that of others?

**Student Engagement**

- Knowledge:
  - How do I know that students saw the connection and meaning in the learning?
- Ability:
  - How do I know if the students believed that they are capable? What scaffolds assisted the students to learn?
- Control:
  - How do I know if the students felt they could negotiate learning and share control
with their peers and myself as teacher?

- **Place:**
  How do I know if the students felt a sense of belonging and ownership in my class?

- **Voice:**
  How were the students given time, opportunities and resources to reflect on and communicate about their learning?

### Evaluation of Standards Met:

- How did the lesson demonstrate Standard 4?
  - Which of the focus areas is best demonstrated in this lesson?
- To what extent is Standard 4 met as a result of completing this activity?
- What might I do differently next time?
- How has this reflection assisted me to meet:
  - Standard 6.2, *Engage in professional learning and improve practice – understand relevant and appropriate sources of professional learning for teachers?*
  - Standard 6.3, *Engage with colleagues and improve practice – seek and apply constructive feedback from supervisors and teachers to improve practice?*

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This activity provides evidence of my capability to meet Standard 4. Underline whichever applies:

My capability is not evident / developing / evident

Date:
Guided Self-Assessment on Teaching a Lesson during Practicum
Addressing the Australian Professional Standards for Teaching
*Standard 5*

Link to Professional Teaching Standards at the Graduate Stage

**Australian Teaching Standard 5**—Assess, provide feedback and report on student learning

**Focus Areas**

5.1 Assess student learning.

5.2 Provide feedback to students on their learning.

5.3 Make consistent and comparable judgments.

5.4 Interpret student data.

5.5 Report on student achievement.

**How did I engage the students?**

- How did I demonstrate understanding of assessment strategies, including informal and formal, diagnostic, formative and summative approaches to student learning?
- How did I demonstrate an understanding of the purpose of providing timely and appropriate feedback to students about their learning?

**How did the students explore and explain the learning?**

- How were the students assessed?
- How did I provide activities that gave students opportunity to show their learning?
- How did I interpret student data to evaluate student learning and modify teaching practice?

**How did I position students to evaluate their learning?**

- How did I clarify for students what a quality product or performance looks like by using work samples, annotated exemplars or models?
- How did I use digital resources or tools to enhance the validity, reliability and efficiency of approaches to assessment and evaluation?

**Student Engagement**

**Knowledge:**

- How do I know that students saw the connection and meaning in the learning?

**Ability:**

- How do I know if the students believed that they are capable? What scaffolds assisted the students to learn?

**Control:**

- How do I know if the students felt they could negotiate learning and share control with their peers and myself as teacher?

**Place:**

- How do I know if the students felt a sense of belonging and ownership in my class?
Voice:
- How were the students given time, opportunities and resources to reflect on and communicate about their learning?

Evaluation of Standards Met:
- How did the student work samples demonstrate Standard 5?
  - Which of the focus areas is best demonstrated in these work samples?
- To what extent is Standard 5 met as a result of completing this activity?
- What might I do differently next time?
- How has this reflection assisted me to meet:
  - Standard 6.2, Engage in professional learning and improve practice – understand relevant and appropriate sources of professional learning for teachers?
  - Standard 6.3, Engage with colleagues and improve practice – seek and apply constructive feedback from supervisors and teachers to improve practice?

This activity provides evidence of my capability to meet Standard 5. Underline whichever applies:

My capability is not evident / developing / evident

Date: