

An investigation of best practice in evidence-based assessment within preservice teacher education programs and other professions

*Report of research commissioned by
the Queensland College of Teachers
2012*

Submitted by
THE UNIVERSITY OF QUEENSLAND
SCHOOL OF EDUCATION, TEACHING & EDUCATIONAL DEVELOPMENT INSTITUTE
and
SCHOOL OF HUMAN MOVEMENT STUDIES





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This is a report of research commissioned by the Queensland College of Teachers (QCT). The views expressed are those of the authors and do not necessarily represent the view of the QCT.

Each year the Queensland College of Teachers (QCT) develops a research plan, which takes into account emerging issues and changing priorities in education, policy and practice related to the functions of the QCT. Consultation with a range of stakeholders identifies research priorities and initiatives that could be undertaken in partnership or commissioned by the QCT. Research priorities will continue to evolve in future years around areas of opportunity or need in education and the teaching profession.

The most significant influence on focusing QCT research priorities for 2011 was the Queensland government's *Review of Teacher Education and School Induction* project.

This report is the product of research commissioned by QCT to conduct an "investigation of best practice in evidence-based assessment within preservice teacher education programs and other professions".

More information about QCT research may be found on the QCT website at: <http://www.qct.edu.au/Policy/index.html>

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(i) Compiling the Report and Consultations

This report was compiled primarily from a literature review of assessment practices in preservice teacher education in Australia and internationally. In addition to the national scene, we considered three international regions: (i) USA, where there is a very substantial literature and extensive documentation of assessment procedures and approaches across three decades; (ii) Europe, where there is a growing concern about assessment practices particularly in response to international testing by PISA and comparison of high-performing and low-performing nations; and (iii) Asia, where there is confidence in the systems of schooling and teacher education but a concern also to remain at the cutting edge of educational innovation.

Initial consultations led us to focus on three national initiatives in Victoria: Deakin University's *Authentic Teacher Assessment*; Melbourne University's *Clinical Practice Examination*, and Victoria University's *Applied Curriculum Praxis* project. These three initiatives reflect in broad terms two influential traditions: (i) Lee Shulman's and Linda Darling-Hammond's paradigm of authentic assessment of teachers' knowledges and reflective practice (Deakin and Melbourne); and (ii) Marilyn Cochran-Smith's and Ken Zeichner's paradigm of assessing preservice teachers for knowledge, skills and value commitments relevant to equity and social justice in education.

In addition, a scan of other professions, including the law, social work and allied health professions, was completed to examine how assessment was conducted within their professional degree programs and how induction of graduates into professional practice was managed. The comparison of these professions with teaching was instructive in highlighting commonly deployed high quality assessment processes.

We emphasise that this is not an exhaustive review of assessment practices across Australia or internationally. It is purposive sampling of selective examples of "best practice" to: (i) capture the main paradigms and approaches to assessment of preservice teachers; (ii) identify the key features of a high quality system of assessment and; (iii) offer guidance for future policy developments.

In addition to the review of literature and description of examples from Australia and internationally, consultations with local and national stakeholders were held focussing on three key questions:

- (1) What are the current significant contextual issues influencing teacher education and assessment practices?
- (2) What should be the focus and priorities in teacher education?
- (3) What assessment practices should be included in teacher education programs?

The consensus of viewpoints arising from these consultations reinforces the kinds of conclusions that we reached from the review of literature and current innovative practices.

In terms of (1), significant contextual issues, all stakeholders pointed to the recent evolution of national policy-making authorities, whether it was the role of the Australian Institute for Teaching and School Leadership (AITSL) in coordinating the accreditation of teacher education programs or the role of the Tertiary Education Quality & Standards Agency (TEQSA) in overseeing university teaching

and quality assurance. The way these national authorities implemented a national agenda was seen as crucial in determining how assessment practices in teacher education might play out over time.

In terms of (2), priorities in teacher education, there was a range of views. One concern was the importance of preparing graduates to teach Indigenous Studies majors and enabling practicum placements for this area. Another priority was to embed national standards across all programs and ensure quality entrants into teacher education programs. A number of stakeholders saw university-school partnerships as crucial and enabling better and more varied practicum experiences where theory and practice could be better integrated.

In terms of (3), assessment practices, there was widespread support for strengthening assessment practices and adopting authentic forms of assessment that integrated theory and practice. There was also support for assessment focussed on higher-order skills and concomitantly there was no support for extending tests of basic skills and knowledge. This was seen as a potential driver of low-level content in teacher education programs. Related to this view was the preference for more holistic forms of assessment that captured the complexity of teaching rather than piecemeal tasks.

(ii) Summary of the Report

Section 1

Teacher education programs in Queensland and Australia are challenged to prepare graduates to teach a more diverse student population with increasing expectations from governments, education systems, and the community. In this context, the quality of assessment practices in preservice teacher education programs is under scrutiny, and trust in these practices needs to be ensured and communicated clearly to stakeholders.

Recent reviews of teacher education in Australia highlight the importance of building a closer connection between theory, knowledge and practice through changes to the structure of teacher education programs and through different forms of assessment. Financial resources to support the recommendations are also highlighted.

The notion of evidence-*informed* practice is preferred in this report because it foregrounds that assessment always requires articulation of a vision of worthwhile learning and preferred outcomes.

Section 2

The vision of what features constitute a “good teacher” varies, and across time quite contrasting notions of the “good teacher” have been proposed. In summarising this history, four versions are identified in this report that foreground different qualities of the “good teacher” each centred on the following four domains: (i) morality; (ii) skills; (iii) equity commitments; or (iv) knowledges.

Each of the visions of the “good teacher” has added to the current elaborated view of the teaching profession, and what teachers should “know” and “be able to do”. Teachers are expected to uphold high professional values and behave ethically (morality); they are expected to be skilled in the routine procedures of teaching (skills); they are expected to have a commitment to the national goals of education focussing on equity and excellence for all students (equity); and they are expected to have mastered the range of disciplinary and professional knowledges that underpin the professional act of teaching (knowledges).

The Queensland College of Teachers (QCT) professional standards draw upon these four strands by defining for each of the 10 standards a set of associated: *practices* (including skilled behaviours and procedures); *knowledges* (including disciplinary content knowledge and Shulman’s taxonomy); and *values* (including educational values related to each standard and personal values and ethical conduct).

The equity tradition is incorporated as a separate standard – Standard 4 - which specifies a particular focus on Indigenous culture as well as consideration of students’ socio-economic circumstances, location, gender, sexuality, ethnicity, culture, language, religious beliefs and individual needs. The equity reform tradition remains pertinent to the on-going challenges that teachers and teacher educators confront regarding equity and excellence in schooling (Melbourne Declaration, MCEETYA, 2008). There are numerous examples of recent teacher education initiatives focussed on specific populations (rural & remote; low SES; Indigenous) and these recent developments align with

international and national examples in Section 6 (see Boston College TNE) and Section 7 (see Victoria University).

It is important, therefore, to consider the different foci in the historic movement towards greater recognition of teaching as a profession based on widespread recognition of a distinctive knowledge base, pedagogical know-how and professional values, and the flexible and skilled deployment of that cluster of capabilities to enhance student learning in particular community contexts, especially where educational equity remains a compelling challenge.

Section 3

Assessment in teacher education has been based on different models of the relationship between theory, knowledge and practice. The most common model has separated theory, knowledge and practice and the sites of their acquisition. Theory and knowledge have been taught and assessed on the university campus while practice has been enabled and assessed at school sites and other educational settings. The quality of these assessment practices has been monitored and assured in increasingly explicit and regulated ways. Assessment policies at universities require criterion-based assessments and multiple forms of assessments, including formative feedback to students throughout the semester. Nonetheless, the separation of practice from theory and knowledge has been challenged as inadequate and alternative forms of *integrated* assessment have been proposed. These include authentic assessment tasks and extended placements at school sites where experiences in the classroom can be theorised and reflected upon and thereby inform future plans and actions (see Deakin and Melbourne University models of authentic assessment in Section 7). These integrated models are more explicitly based on notions of praxis and evidence-informed practice and underpinned by authentic assessment tasks such as action learning reports (for example, see Finland Section 6) and extended curriculum inquiry projects (for example, see Applied Curriculum Project at Victoria University in Section 7).

Section 4

Eight key features of an assessment system are proposed that, we suggest, will ensure quality graduates from preservice teacher education programs. The features are described as broad principles and common practices rather than as prescriptions for uniformity. There are multiple ways to deploy these features and ensure a quality assessment system.

4.1 The system is based on principles of authentic assessment.

4.2 It is a system of assessment that is moderated within programs, informed by sharing quality assessment practices across the sector, and meets the requirements of reliability and validity.

4.3 It is a system that enhances the capacity of preservice teachers for self-assessment and reflection on their levels of developing knowledge and practice.

4.4 It captures the complexity of teaching.

4.5 It captures the multifaceted nature of teaching in a comprehensive manner.

4.6 It reflects the overall goals for education in Australia as currently agreed and elaborated in the Melbourne Declaration.

4.7 It aligns with current national (AITSL) and state (QCT) professional standards.

4.8 It has support from key stakeholders.

These features of assessment cannot be implemented without some reconsideration of the overall structure of the teacher education programs and the provision of resources to enable quality programs and quality assessment to be implemented. In a number of examples presented in Section 6 and Section 7 the authentic and high quality assessment practices have been underpinned by extended teacher education programs of five or six years duration (for example in Finland, and the STNE at Aberdeen Scotland), or extra resources have been directed to develop innovative practices (for example, Deakin or Melbourne University models). Nonetheless, our report provides concrete examples of how authentic assessment might be achieved and there are national and international examples that can assist in guiding future policy directions.

Section 5

In the assessment literature on preservice teacher education a number of specific assessment tasks have been proposed that enable more authentic assessment to be conducted. These tasks (Cases; Exhibitions; Portfolios; e-Portfolios; Inquiries and Teacher Research) require preservice teachers to integrate knowledge across domains and to consider in a reflective and reflexive manner the nexus between theory, knowledge and practice. These tasks can be designed in various ways and are open to innovation. As we further explore in Section 6 and Section 7 these types of tasks are being adopted nationally and internationally as assessment practices are reconsidered in various localities across the world.

Section 6

Recent reviews of teacher education and assessment in Europe, Asia and USA are summarised in this Section and certain conclusions are extracted that are relevant to the current report on quality assessment. Only the key ideas are summarised below. In the report itself, quite extensive details of assessment practices are provided for many of the examples (e.g. USA and Singapore), while for others only the main directions of policy reform are noted.

Europe

- **Finland** – Emphasis on research methods and conducting a research project within an extended preservice program. Aligns with view of teachers as professionals who research their own practices in order to improve learning outcomes.
- **OECD** – Emphasis on portfolios and professional conversations between staff, students and peers regarding the portfolio artefacts and resources.
- **Scotland** – Seeking to balance summative assessment pressures with formative assessment opportunities during practicum, including the formative opportunity to engage in professional conversations with peers and mentors.
- **Scottish Teacher for a New Era (STNE – University of Aberdeen)** – Six year program with extended induction and strengthening the theory-practice nexus through mentoring from highly qualified teachers during the fifth and sixth year.
- **England** – Importance of maintaining a focus on integrating theory, knowledge and practice in school-based teacher education programs, and avoiding the negative effects of focussing only on local school practices without a broad theoretical and strategic understanding of alternatives.

Asia

- **Hong Kong** - Emphasis on preservice teachers *collecting and commenting on* how pieces of work reflected their achievement of particular competencies. It is the dialogues that occur around the portfolio that appear to be crucial and this has effects both on the way the preservice teachers plan and implement lessons and how the teacher educators provide guidance and clear expectations about what is required.
- **Singapore** - Introduction of *e-portfolios* which is described as a move in a new direction and approach to the assessment and validation of graduates' achievement of the GTCs (Graduate Teacher Competencies), and is aimed at developing the reflective teacher. Included in this new approach is a series of *focussed conversations* that occur between the preservice teachers and their mentors whilst on practicum. These conversations are seen as contexts for both formative and summative assessment of the integration of theory, knowledge and practice.

USA

- **Alverno College** - Assessment of students towards the end of their teacher education program is based on the 'Teaching Event' (similar to *PACT* which is described below) whereby students include in their portfolio video clips of their teaching, along with lesson plans, assessed student work, and reflections on their teaching and their students' learning. Charlotte Danielson's (2011) framework for teaching is used to structure the assessment within the Alverno student portfolio, as well as observations done by supervising faculty during students' field placements prior to student teaching. Each of the framework's four domains – Planning and Preparation; The Classroom Environment; Instruction; and Professional Responsibilities – are aligned with both the Alverno College 'Education Advanced Abilities' and the Wisconsin Teacher Standards.
- **Performance Assessment for Californian Teachers (PACT)** - Focuses on two assessment types: (a) formative development of prospective teachers through embedded signature assessments that occur throughout teacher preparation; and (b) a summative assessment of teaching knowledge and skills during student teaching (the Teaching Event).

Following specific principles PACT was designed to ensure an assessment focus on student learning through intentional teaching practices and the systematic collection of teaching artefacts in a portfolio format. The design principles require that a teacher performance assessment should:

- Maintain the complexity of teaching;
- Focus on content/pedagogy within disciplines embedded in the teacher preparation curriculum;
- Examine teaching practice in relationship to student learning;
- Provide analytic feedback and support;
- Be both adaptive and generalisable.

Programs have used the data generated by PACT to make programmatic improvements that have resulted in enhanced preparation and preservice teacher performance. Extensive

research continues to ensure reliability and validity measurements, including an in-progress value-added study of preservice teaching in relation to student learning in California.

- **Boston College** - Cochran-Smith and her colleagues worked to construct “teaching for social justice” as a legitimate and measurable outcome of teacher education. The research team has theorised teacher education policy, practice, and curriculum in terms of the goal of social justice. They also developed a set of instruments to measure the degree to which the Boston College teacher education program achieved this outcome. Drawing on Rasch item response theory, they developed a “Learning to Teach for Social Justice-Beliefs” (LTSJ-B) scale, which they embedded into a series of entry, exit, one-year-out, two-year-out, and three-year-out surveys. Using the results of these surveys administered to multiple cohorts of teacher candidates and graduates, they were able to measure changes in beliefs related to teaching for social justice over time, showing significant positive gains from entry to exit that were maintained after one year of teaching.

Section 7

Deakin University – Deakin’s Authentic Teacher Assessment (ATA) comprises tasks or activities designed for preservice teachers to demonstrate their understanding of, proficiency with, and critical reflection on aspects of teachers’ work:

- Understanding contexts for students’ learning;
- Planning for teaching and assessment;
- Teaching and supporting students’ learning;
- Assessing student learning and using that assessment to inform future planning and teaching;
- Reflecting on and evaluating professional practice.

Drawing on the structure and content of the PACT assessments or Teaching Events (TEs), the Deakin ATA uses multiple sources of data (teacher plans, teacher artefacts, student work samples, video clips of teaching, and personal reflections and commentaries) which are organized in four categories of teaching: planning, teaching, assessment, and reflection, to better understand graduates’ readiness to teach as measured by the Victorian Institute of Teaching (VIT) *Standards of Professional Practice for Graduating Teachers*.

Melbourne University - At the centre of the Melbourne Model is the notion of the teacher as a clinical practitioner and one key assessment task that reflects this approach is the clinical practice examination (CPE). In this assessment task students are required to report on their teaching intervention in the context of their daily planning and teaching, integrating the knowledge they have gained from different courses within the program that focus on context, classroom learning processes and the key mediating function of language.

The practicum exhibition (PE) towards the end of the practicum in schools is focussed on specific teaching episodes and incorporates the key element of the professional conversation. It builds on the skills developed in the CPE and the understanding of theory and pedagogy gained in the university-based subjects. Again, this approach to assessment involves a professional conversation that provides opportunities for deeper reflection and building capacities for self-assessment. Finally, cost is an issue

when key academic and school-based staff are designated to spend extended time in assessment and professional dialogues with each student.

Victoria University (VU) - From a commitment to inquiry-based learning and partnerships, for the past 15 years the teacher education programs at VU have been explicitly grounded in the social and educational conditions of communities with significant social and cultural diversity and considerable socioeconomic disadvantage. This teacher education pedagogy highlights important educational questions such as how schooling might be more socially just. The core of this reform agenda based on partnerships is a practice-theory pedagogy which is designed to enable local inquiry by preservice teachers, with mentoring by teachers and teacher educators to enhance the learning of school students in disadvantaged areas.

A praxis inquiry protocol is deployed by VU academic staff to encourage preservice teachers to investigate professional practice through an integrated process of practice described, explained, theorised and changed. The key assessment task is the Applied Curriculum Project (ACP) which is a year-long compulsory and negotiated project of curriculum development undertaken by preservice teachers at their school site. The intent of the ACP is to involve all participants more deeply in the curriculum and learning of the school and to establish more authentic relationships between preservice teachers, mentors and school students. The ACPs ideally complement and integrate teaching and research requirements of the school with the curriculum inquiry unit contents of the university program.

Section 8

Different professions take different approaches to preparing, and assessing the readiness of, university graduates to practice. In some professions (for example, teaching, social work, occupational therapy, and physiotherapy), university programs produce graduates who are immediately able to apply for registration (provisional in some cases) with their relevant professional bodies, allowing them to practice independently immediately. In contrast, other professions (for example, engineering, law, and psychology) require university graduates to complete a period of supervised practice, or further practical training, before permission to practice independently is granted.

The case studies of assessment practices in social work, physiotherapy and occupational therapy have some potential implications for the consideration of assessment processes in teacher education programs. These implications are summarized below:

- Assessment in these professions is performance- and evidence-informed. Performance domains are specified and a range of sources and types of evidence are used to measure the achievement of intended learning outcomes.
- Assessment takes account of variations in fieldwork settings and traditional notions of sequential development are not always possible or appropriate because students may be practicing in a new context even though it is their last practicum.
- Assessment instruments are user-friendly and support self-assessment. They are used formatively during field placements as well as summatively at the end of the placements.
- The assessment processes used are clearly and thoroughly documented through comprehensive manuals and, in the case of Occupational Therapy, an extensive web site has been developed to support external clinical educators.

- Assessors in the field receive formal preparation for their role, and work in conjunction with university-based assessors to assess student performances. In some cases, the clinical educators complete the assessment process.
- The assessment tools in physiotherapy and occupational therapy were developed to measure the student's practical demonstration of the professional standards in those professions. In social work, practice standards are explicitly referenced at several stages of the assessment process.
- The physiotherapy and occupational therapy instruments and associated practices were developed through extensive national collaboration and are widely accepted across Australia.
- An extensive consultation process with relevant stakeholders was used to develop the assessment tools in physiotherapy and occupational therapy. This process has produced considerable goodwill, developed the relationships between stakeholders, and increased the commitment to the assessment tool from all parties concerned.

Section 9

This Report on assessment practices in teacher education has collated many different examples, nationally and internationally, of best practice. A key conclusion, therefore, is that there are diverse ways to authentically assess what preservice teachers know and can do. The Report offers an informed set of options for the design of assessment in teacher education programs rather than a prescribed one-size fits all approach to assessment.

The Report also foregrounds that teaching and teacher education are not merely technical or training activities, but knowledge-rich, value-informed, skilful and ethical activities, and different approaches are to be expected and lauded within a democratic society. Different universities will draw upon different theories, design principles, objectives for their programs and different assessment practices. The Report does not suggest uniformity in the design and delivery of teacher education programs, but rather an informed and sophisticated approach to assessment that adequately captures the breadth and complexity of the professional work of teachers.

1.0 Introduction

1.1 Current Challenges

Teacher education programs in Queensland and Australia are challenged to prepare graduates to teach a more diverse student population with increasing expectations from governments, educational systems, and the community. In this context, the quality of assessment practices in preservice teacher education programs is under scrutiny, and trust in these practices needs to be ensured and communicated clearly to stakeholders.

There are significant accountability pressures on teachers and teacher educators arising from the current system of national testing (NAPLAN), the international testing regimes conducted by TIMSS and PISA, and the widespread use of these data to compare the performance of educational systems and schools both nationally and internationally. The expectations of the community and parents have also been heightened by the economic shifts from an industrially-based economic system to a knowledge-based economic system that relies increasingly on the levels of knowledge, resourcefulness and creativity of citizens to build and maintain a sustainable economy that offers worthwhile employment opportunities to young Australians. As the Bradley review (Bradley, Noonan, Nugent & Scales, December 2008) makes clear, young Australians are expected to enter higher education programs in increasing numbers and educators at all levels are expected to engage with a greater diversity of learners for longer periods of time, and provide quality experiences and advanced qualifications.

In this context, concerns have been raised about the quality and competence of graduating teachers and the adequacy of teacher education programs for the demands of the 21st century. One expression of these concerns can be seen in the recent introduction of pre-registration tests in literacy, numeracy and science for applicants seeking registration in Queensland as primary or middle years' teachers. In this report we have not evaluated the efficacy of this type of policy response as it is yet to be fully implemented and it is not yet clear whether such a requirement will be adopted under a national accreditation framework.

1.2 Evidence-based or Evidence-informed Assessment

Our approach is based on the view that quality assessment depends first and foremost on prior value judgements about the purposes and goals of teacher education. In a democracy like Australia there will be differences between citizens and policy makers about the purposes of education, and consequently there will be differences in how the purposes and goals of teacher education are framed, and what is regarded as quality assessment. As we explore in Section 2, different visions of an effective teacher have informed teacher education programs across the last hundred years, varying from notions in the late 19th century of teachers as essentially conventional and morally upright citizens who could read and write, to the current dominant view of teachers as professionals with distinctive knowledges, pedagogical practices and values. Each vision directs attention to different assessment processes and to different domains of competence. So assessment is never simply a technical exercise of measurement. It always involves specifying a set of learning outcomes based on a vision of what is worthwhile learning in the first place. Taking this into account, we prefer the term *evidence-informed assessment* rather than *evidence-based assessment*. The former term indicates that assessment always involves situated value judgements by assessors who are guided by a particular vision of worthwhile learning.

1.3 Recent Reviews

Recent reviews of teacher education at the national level (House of Representatives Standing Committee on Education and Vocational Training, 2007) and state level, for example, in Victoria (Ure, Gough & Newton, 2010) and Queensland (Caldwell & Sutton, October, 2010) have identified key assessment challenges, particularly regarding the theory-practice nexus.

Caldwell and Sutton (2010) conclude their report on teacher education in Queensland by suggesting that:

The challenge is for universities and the QCT to work in new and different ways to determine how preservice teachers and beginning teachers can best demonstrate that they have in fact acquired the requisite skills, beyond having desirable knowledge and understanding of what needs to be done (Caldwell and Sutton, October, 2010, p.44).

Ure, Gough and Newton (2010) in Victoria concluded that there were four specific areas where reform in teacher education was required. They summarise their discussions with stakeholders briefly as follows (note the theory-practice dot-point 3):

The accumulated comments and criticisms about teacher education point to four areas for further research and development. These are:

- *candidate selection to reliably select high quality candidates with an aptitude for teaching;*
- *length and structure of teacher education programs to determine how experiences in schools should be supported to ensure preservice teachers become effective classroom teachers and well informed members of the teaching profession;*
- *coherence and the quality of the theory-practice links to determine how program design promotes teaching practice that is informed and modelled on evidence;*
- *resources that are needed to permit higher education providers and schools to work in partnership to better support practicum placements in teacher education programs (Ure, Gough & Newton, 2010, p.8).*

Mr Luke Hartsukyer (MP) who chaired the *Top of the Class* inquiry into teacher education (House of Representatives Standing Committee on Education and Vocational Training, 2007) summed up the inquiry in the following nuanced and thoughtful manner:

It is important to state that the teacher education system is not in crisis. It currently serves Australia very well but could do better. The committee's recommendations suggest improvements at every stage of teacher education such as by seeking to strengthen its research base, fund better teacher education programs and develop practicum partnerships. We suggest how the transition from teacher education student to classroom teacher can be improved (House of Representatives Standing Committee on Education and Vocational Training, 2007, p.vii).

The Committee further found that the persistence of problems in teacher education can be attributed to the following factors (note in particular dot-point 3):

- *the current distribution of responsibilities in teacher education which results in a fragmented approach to teacher education;*
- *inadequate funding for educational research and for mechanisms to ensure that teacher education and teaching is research evidenced-based;*
- *a lack of investment in building the partnerships that would help bridge the gap between theory and practice, particularly for practicum;*
- *inadequate funding of teacher education, particularly for practicum; and*
- *a failure of policies involving teacher education to reflect that teacher education does not finish at graduation from an initial teacher education course but continues through induction into the profession as a beginning teacher through to established, advanced and leadership stages (House of Representatives Standing Committee on Education and Vocational Training, 2007, p.xxi).*

While the factors identified as problematic by the Committee remain unresolved, the present moment offers the opportunity to strengthen the professional standing of teachers and teacher educators by proposing key features of an assessment system that provides rich learning experiences for preservice teachers, bridges the theory-practice divide, and establishes trust and credibility with stakeholders and the broader community. These features are specified in Section 4 of this report. It is also important to highlight that there are international examples (Section 6) and national examples (Section 7) of quality practices in assessment of preservice teachers that offer guidance regarding the way forward to a more comprehensive and trustworthy system.

1.4 Teaching as Complex and Committed Practice

In considering best practices in assessment we need to foreground that teaching is complex and accordingly assessment needs to be sophisticated to capture that complexity. At the core of the professional activity of teaching are processes of making judgements, interpreting information, and planning and implementing actions to promote the learning of students who vary greatly both in terms of their readiness to learn at school, and the support available to them from families and the community. The complex and situated nature of teaching increases the need to consider carefully how to design assessment practices that can capture such complexity in different schooling contexts.

Teaching is also not simply an activity of enhancing learning in a technical sense. Rather the development of students as persons with physical, cognitive and emotional capacities and needs has to remain central to the professional activity of teaching. That is, teaching is a normative and ethical activity that requires consideration of the best interests of the students and community. The professional values endorsed and enacted by preservice teachers are crucial when considering assessment. Thus, assessing what teachers “know and can do” in a technical sense is necessary but not sufficient because authentic assessment of preservice teachers requires attention also to their values and professional commitment to ethical standards and practices. This requires wise and considered judgement by assessors across time.

Preparing preservice teachers for this complex and ethical professional activity requires enabling them to draw upon a range of relevant teaching strategies that include ways to build connections between their students’ prior knowledge and interests and the knowledge and skills embedded in the

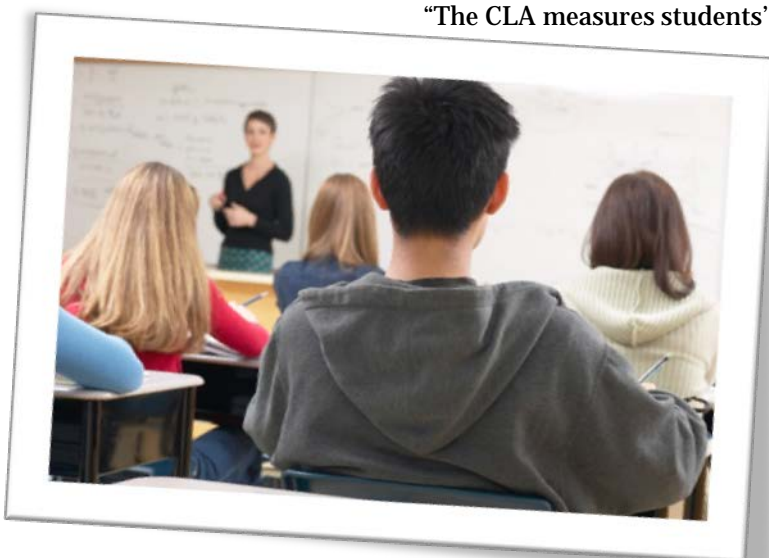
curriculum. The capacity to engage in this sophisticated performance as a teacher is an on-going professional learning task that is a lifelong activity. It is in this context that we have reviewed the evidence regarding best practices in assessment of what preservice teachers know and can do.

2.0 Context and History

2.1 Regulation of Assessment within Universities

Accountability for particular professional preparation whether it be the accreditation of tertiary programs or registration of tertiary graduates sits within a complex and expanding network of generic knowledge, skills and attributes, measurement, and reporting requirements, some tied to national performance funding for universities. At the university level, core quality assurance practices include articulation and assessment of graduate attributes in all courses, teaching and course evaluations completed by the tertiary students, generalised university experience surveys, as well as surveys of employment following graduation. Professional programs, such as teacher preparation, also embed into their program and course profiles, knowledge/skills/competencies consistent with professional accreditation requirements.

Universities are now required to form a compact or agreement with the Australian government related to the university's mission, teaching and learning, research and public funding (see www.deewr.gov.au/HigherEducation/Policy/Pages/FAQs). The compact outlines performance targets across a range of indicators, with Reward Funding going to performance in indicators related to teaching quality that include the University Experience Survey (UES) and the Collegiate Learning Assessment (CLA). "The CLA has been chosen by the OECD as the best available instrument for the assessment of generic skills, as it is proven and widely accepted in the US. The CLA offers the prospect of international benchmarking given its use by the OECD" (www.deewr.gov.au/HigherEducation/Policy/Pages/FAQs).



"The CLA measures students' critical thinking, analytic reasoning, problem solving, and written communication skills with meaningful, holistic, complex tasks following in the tradition of the progressive education movement" (Klein et al., 2007, p. 419). It is typically administered to first year and final year students to provide a summative assessment of the value added by the institution to higher-order student learning outcomes. It is computer administered and comprises open-ended questions that ask students to make an argument, critique an argument, and a ("real world")

performance task (Ekman & Pelletier, 2008). In 2011 Australia is developing a culturally appropriate iteration of the CLA and piloting it with a view to establishing baseline performances in 2012, and in turn, performance targets for 2013. It is within this increasingly crowded field of tertiary education accountability that the QCT's proposed investigation of preservice assessment practices sit.

2.2 Good Teaching—What is it?

What is regarded as ‘good’ teaching (and therefore as ‘good’ teacher education and ‘good’ assessment) is significantly influenced by historical context. Connell (2009) provides a brief historical overview of contrasting notions of ‘good’ teaching by highlighting how teachers’ work has been construed quite differently at different moments in Australian history.

Connell (2009) notes that when *public* schooling was first established in Australia towards the end of the 19th Century, the notion of a ‘servant teacher’ was emphasised, with its emphasis upon a moral agenda for students and teachers, encouraging self-control and respectability within society. This notion of teachers’ work aligned with a tightly prescribed school curriculum focussing on the basics of reading, writing and arithmetic, and the broader civic goal of ensuring control and public order within a volatile colonial setting.

The focus changed during the first half of the 20th Century with the application of psychology and philosophy in educational contexts. This influence encouraged teachers and teacher educators to focus more on teaching routines such as how to organize lesson plans and manage students for learning, as well as the intellectual development of students alongside their moral well-being and development of self-discipline. During these decades the increasing prominence of psychology led to the rise of a more ‘technical-professional’ stance regarding teachers’ work.

During the 1960s and 1970s, the questioning of established social roles and power relationships led to an examination of the role of education in the reproduction of elites and social disadvantage, and to the analysis of how schooling structures and routine practices (such as streaming) were complicit in this process. This in turn led to the construal of teachers and teacher educators as agents of social change. It was at this time that many teachers and teacher educators were introduced to critical social theorists, alternative forms of schooling, and notions of de-schooling. Policy leaders and education systems were open to innovations that challenged traditional structures and processes in schools - for example in the Australian Capital Territory, the brief flowering of the “open education” movement led to the design of a number of innovative open-plan schools without separate classrooms where teachers taught in teams and multi-age groups. Providing a teacher education program aligned with these innovations was indeed a challenge.

By the 1980s and 90s, policy preoccupations had shifted from concerns with social transformation towards concerns about economic stability and growing human capital within nation-states, and was reflected in policy emphasising education as a vehicle for development of student competencies within nations for improved economic capacity and efficiency. The ‘competent teacher’ or what Moore (2004) refers to as the ‘competent craft-person’, and what others have referred to as technical competence (Arends, 2006) characterised this model of good teaching. The specification of a multitude of teaching skills related to teacher competence characterised the quest for defining teachers’ competence.

More recently, with increased concern about economic competitiveness within a globalized work and commercial context, there is now significant concern to ensure teachers and teacher educators are cognizant of, and responsive to these concerns, sometimes summarised as concerns centred on the development of a ‘knowledge-economy’ and capacities for flexibility and lifelong learning.

Reflecting upon the Finnish shift from an agrarian/industrial state in the 1950s to a ‘knowledge economy’ employing education for economic and social development, World Bank Senior Education Specialist, Professor Pasi Sahlberg (2007) argues that this process has been made possible in Finland

as a result of five key tenets that underpin the work of teachers: equity, flexibility, creativity, teacher professionalism and trust. An example of how teacher professionalism is encouraged and valued institutionally in Finland is through the requirement for all teachers to possess a Master's qualification. Furthermore, this process is encouraged through teacher education programs which foster a research-based professional model (Westbury *et al.* 2005). Similarly, Simola (2005) in reflecting upon Finland's iconic status as a high-performing and high-equity nation in PISA assessments, points to the importance of, *inter alia*, a broad collectivist social mentality, the high status of the teaching profession, trust of the public and the political (and economic) elite, and relative work satisfaction amongst teachers. It is this kind of professional standing for teachers and trust in their preservice education that we seek to further through our report of assessment practices nationally and internationally.

We also recognise that currently there are tensions in policy directions between increased standardization of teaching versus increased emphasis on innovation and creativity. These tensions are also revealed in how assessment policies for preservice teachers are being framed currently with, on the one hand support for common basic tests of content knowledge and pedagogical content knowledge versus support for more authentic assessments of nuanced professional knowledge and know-how in diverse teaching contexts.

If teachers and teacher educators were to emulate the qualities required for expanded economic performance, then we would see greater emphasis on social networking, co-operation and sharing of ideas associated with flexibility, creativity and risk-taking (Sahlberg, 2006). In sum, the current context matters when considering what counts as good teaching and how to assess preservice teachers.

2.3 Assessment of Teachers—What Counts?

Richard Arends' (2006) overview of different approaches to the assessment of preservice teachers during the past 60 years provides a useful way to draw out the implications of our brief historical sketch of 'good teaching'. It parallels closely the outline provided above based on Connell (2009). In this section we have drawn predominantly from Arends' overview but in places expanded and elaborated to trace the shifts in focus on teacher competencies and effectiveness across time.

Character Traits: In the immediate post WWII era teachers were judged as suited to teaching based on personal qualities such as "warmth, fairness, and responsiveness" (Arends, 2006, p.4) and character traits such as alertness, steadiness, poise, and confidence. In this era it seemed that teachers chose a vocation to which they were suited rather than were educated through professional programs. The purpose of preservice teacher training, therefore, was to determine whether candidates could display the required personal characteristics to be effective in the classroom.

Teaching Skills and Procedures: In the late 1960s and 1970s with the rise of the process-product paradigm of learning and the emergence of an interest in identifying the observable features of teacher effectiveness, the focus shifted from the teacher's character to cataloguing specific behaviours of effective teachers and promoting these behaviours as the model for preservice teachers to emulate. It was in the 1970s and early 1980s that micro-teaching became a prominent pedagogy in teacher education programs in Australia (see Cliff Turney, Sydney Micro-Skills, 1973). Teaching behaviours that were modelled in micro-skill formats included: basic questioning, advanced questioning, reinforcement, variability, explaining, and behaviour management.

The process-product research studies on effective teachers and the associated teaching materials, such as micro-skill video models and handbooks, were important in identifying elements of effective teaching behaviours, however, they tended to underplay teacher knowledge, teacher reflection, flexibility and responsiveness to the unfolding events of teaching episodes in actual classrooms. This approach was also problematic in terms of a reductionist approach to describing effective teaching. More and more teacher behaviours were identified and described as aspects of effective practice. One university in the USA that adopted this micro-behavioural approach to teacher competencies identified 1350 competencies that included the most simple of classroom skills (Arends, p.8).

Equity Commitments: From the 1970s onwards, educators have analysed and critiqued social roles and power relationships in society especially with regard to gender, ethnicity, race and socioeconomic status. The place of schooling in the reproduction of elites and social disadvantage began to be documented in the 1970s, and this led to analysis of how schooling structures and routine practices (such as streaming and various forms of student selection for educational pathways and resource allocation) were complicit in this process leading to the construal of teachers and teacher educators as agents of social change. Graduates from teacher education programs were expected to be critical and progressive teachers with a focus on issues of equity and educational change. The current Melbourne Declaration of educational goals for young Australians (MCEETYA, December, 2008) continues to highlight educational inequity as an endemic challenge for teachers and teacher educators in Australia. Current teacher education initiatives focussed on preparing graduates to work in low SES communities, or in rural and remote schools, or with Indigenous students and communities, can be seen as part of this on-going tradition. Since the 1970s this equity and social change tradition has been enriched by more explicit attention to the distinctive knowledges, values and dispositions required of teachers to work effectively in different communities. It has also been enriched by the articulation of notions of praxis, teacher enquiry and action research and the incorporation of these approaches in teacher education programs and especially as culminating assessments.

Knowledge(s): By the mid-1980's the process-product approach to defining teacher competencies was being critiqued in the light of the *knowledge* perspective developed by Lee Shulman. This was a much more cerebral and reflective approach to teacher competence. Shulman (1986) elaborated his framework in the seminal article entitled, *Those Who Understand: Growth Knowledge in Teaching*. This focus on teacher knowledge occurred at the moment that educational researchers were discovering the key role of knowledge networks and learners' background knowledge (schemata) in mediating and largely determining one's capacity for new learning. Researchers discovered that experts and professionals in many different fields of human endeavour not only behaved differently to novices but also had *at hand* rich knowledge networks that they could deploy flexibly depending on the contingencies of the particular situation. To explain such expertise, researchers began to focus on the depth and breadth of experts' knowledge and the ease of access with which they were able to draw upon such knowledge when it was required. Knowledge per se was necessary but not sufficient; it was the way knowledge was organised into deployable strategies that distinguished the expert from the novice. Shulman used these insights from broad-based research on human cognition to build the model of teacher knowledge that provides the foundation for much of the current framing of teacher effectiveness and professional standards.

While there have been some developments since Shulman proposed his framework in 1986 there is still widespread acceptance and use of it within teacher education programs and by accrediting authorities across the world. Two additions worth noting are summarised below:

- In recent years, Deborah Ball (Ball & Bass, 2000; Ball, Thames & Phelps 2008) has nuanced some of Shulman's framework by highlighting the importance of specific content knowledge required for teaching curriculum areas. Ball has focussed on mathematics and suggested that mathematical knowledge for teaching (MKT) further refines Shulman's notion of subject matter knowledge. It is different from other mathematical knowledge in that it is subject matter knowledge needed by teachers for the specific task of teaching (Ball et al., 2008), and differences between teachers in this specific knowledge mediates their effectiveness in elaborating students' ideas and planning for future learning episodes. Ball considers three issues in researching such knowledge: the first concerns identifying the disciplinary content knowledge that matters for teaching; the second entails understanding how (in what depth, with diverse exemplars, and in which modalities) such knowledge needs to be held by teachers; and the third concerns what it takes to learn to use such knowledge in practice with diverse groups of students.
- Another extension to Shulman's framework follows from the uptake of ICTs in classrooms over the past few decades. Some educational scholars have added technological know-how to Shulman's pedagogical content knowledge, that is, the knowledge to effectively deploy specific technologies in teaching specific curriculum content. This additional type of knowledge relevant to teachers is termed, technological pedagogical content knowledge (TPCK).

2.4 Shulman's Knowledge Legacy

Shulman's ideas were initially taken-up in the USA, where the National Board for Professional Teaching Standards (NBPTS) was formed in 1987, a year after Shulman's article was published and widely disseminated. The National Board developed a view of teaching widely endorsed and summarized in five propositions about what effective teachers know, how they think, and what they can do (see http://www.nbpts.org/the_standards). This statement relied heavily on Shulman's framework. These propositions were:

Teachers are committed to students and their learning

- > National Board Certified Teachers (NBCTs) are dedicated to making knowledge accessible to all students. They believe all students can learn.
- > They treat students equitably. They recognize the individual differences that distinguish their students from one another and they take account for these differences in their practice.
- > NBCTs understand how students develop and learn.
- > They respect the cultural and family differences students bring to their classroom.
- > They are concerned with their students' self-concept, their motivation and the effects of learning on peer relationships.
- > NBCTs are also concerned with the development of character and civic responsibility.

Teachers know the subjects they teach and how to teach those subjects to students

- > NBCTs have mastery over the subject(s) they teach. They have a deep understanding of the history, structure and real-world applications of the subject.
- > They have skill and experience in teaching it, and they are very familiar with the skills gaps and preconceptions students may bring to the subject.
- > They are able to use diverse instructional strategies to teach for understanding.

Teachers are responsible for managing and monitoring student learning

- > NBCTs deliver effective instruction. They move fluently through a range of instructional techniques, keeping students motivated, engaged and focused.
- > They know how to engage students to ensure a disciplined learning environment, and how to organize instruction to meet instructional goals.
- > NBCTs know how to assess the progress of individual students as well as the class as a whole.
- > They use multiple methods for measuring student growth and understanding, and they can clearly explain student performance to parents.

Teachers think systematically about their practice and learn from experience

- > NBCTs model what it means to be an educated person – they read, they question, they create and they are willing to try new things.
- > They are familiar with learning theories and instructional strategies and stay abreast of current issues in American education.
- > They critically examine their practice on a regular basis to deepen knowledge, expand their repertoire of skills, and incorporate new findings into their practice.

Teachers are members of learning communities

- > NBCTs collaborate with others to improve student learning.
- > They are leaders and actively know how to seek and build partnerships with community groups and businesses.
- > They work with other professionals on instructional policy, curriculum development and staff development.
- > They can evaluate school progress and the allocation of resources in order to meet state and local education objectives.
- > They know how to work collaboratively with parents to engage them productively in the work of the school.

Likewise, the Interstate Teacher Assessment and Support Consortium (InTASC) was created in 1987 as a consortium of state education agencies and national educational organizations dedicated to the

reform of the preparation, licensing, and on-going professional development of teachers. Its work was (and still is) guided by the premise that an effective teacher must be able to integrate content knowledge with the specific strengths and needs of students to assure that all students learn and perform at high levels (see <http://www.ccsso.org/resources/programs>).

In its initial meetings, InTASC also agreed on processes for teacher licensing (registration): all licensing tests would be standards based; multiple measures would be required rather than reliance on a single test; and candidates would be assessed not only on what they know, but also what they could do in three areas: content knowledge, teaching knowledge, and actual teaching performance (Darling-Hammond, 2006). Key to the assessment process was the portfolio which was designed to include the following items:

- > Materials used in instruction
- > Examples of student work
- > Videotapes of teaching
- > Written records and exhibits
- > Reflections that described the teachers' thinking processes.

Arends (2006) notes that since the establishment of NBPTS and InTASC in the late 1980s a substantial consensus has emerged about what teachers should know, what they should be able to do, and how they should conduct effective practice. He further contends that, with the articulation of a distinctive knowledge-base for teaching and the creation of consensus amongst teacher educators and teachers regarding the core elements of teacher knowledge, the conditions have been created for greater public acknowledgement of teaching as a profession. Arends (2006) lists the conditions for recognition of a profession as: "(a) having a coherent body of specialized knowledge, (b) completing an extended period of training, (c) receiving a license which separates the qualified from the unqualified, and (d) practicing a degree of professional autonomy for long-term and day-to-day decision making" (p.16).

2.5 Deregulated Teacher Education Programs

Zeichner (2003) reminds us, however, that the tradition centred on Shulman's model of teacher knowledge(s) and performance-based assessments linked to professional standards is only one of three major movements for reform of teacher education in the past two decades. Another major movement has been for a more deregulated and pared-down model of teacher preparation based on the premise that the key competency of teachers is their disciplinary knowledge. The assumption of this approach is that the craft of classroom practice can be obtained in an apprenticeship system of learning on the job. The deregulated approach underplays the importance of curriculum knowledge, pedagogical knowledge and pedagogical content knowledge and the relevance of educational research on the social and cultural context of schooling. There are no relevant implications of this approach to the current report of assessment practices for preservice teacher education programs.

2.6 Teacher Education for Educational Equity in Specific Communities

However, we do see implications for assessment practices in the third major movement in teacher education. This reform movement is a response to one of the major challenges facing education systems across the developed world, namely, to prepare graduates to teach for equity in an increasingly diverse and inequitable set of social conditions. As we noted above, the Melbourne Declaration of educational goals for young Australians (MCEETYA, December, 2008) highlights educational inequity as an endemic Australia.



that:

It is a reality that in Australia, as it is indeed globally, many more rural schools face increased pressure to attract and retain quality teachers than their urban counterparts. In many States across Australia however there is an 'overabundance' of teacher graduates which is yet to filter through to rural, remote and regional areas. It does not appear from all accounts that preparing more teachers therefore is the answer to the vexed problem of staffing rural and regional communities....Teacher education holds the key in addressing this issue and the work that is required is a re-examination of teacher education curriculum design away from a 'one size fits all' approach to a teacher education program more focused on the ways in which we can effectively prepare teachers to be community, school and classroom ready...

The important word in the last sentence is *community* – in these focussed programs of teacher education much more attention is paid to community contexts. Such teacher education programs draw upon *place-based* approaches to teaching where the importance of the local context and community knowledge is foregrounded (White and Reid, 2008). Preparing preservice teachers for teaching in Indigenous communities is also part of this movement to design more tailored and needs-based teacher education programs for specific community contexts.

Recent examples, funded by the Improved Teacher Quality National Partnership program, include the teacher education project for low SES communities centred on the Morayfield Cluster of schools on the outskirts of Brisbane; and the project at James Cook University designed to prepare graduates for teaching in Indigenous communities. The premise of these programs is that preservice teachers need explicit scaffolding and assistance in order to develop contextual knowledge and pedagogical know-how that is responsive to non-mainstream cultures and to students whose families have not been well-served by the schooling system in the past.

In the USA this movement in teacher education to focus on specific equity groups is exemplified in the systematic design of teacher education programs for social justice by Marilyn Cochran-Smith and her

team at Boston College. The selection of preservice teachers from non-Anglo communities is an associated aspect of this approach, because it is assumed that there are advantages if the preservice teachers share certain aspects of culture and history with these more marginal communities. We summarise Boston College's "Teachers for a New Era" in Section 6 of this report. The culminating assessment task called the *applied curriculum project* (ACP) developed at Victoria University (see Section 7) and based on an extended practicum and engagement in collaborative action research at the school, is also relevant to the focus on equity within teacher education programs.

2.7 Summary

Each of the traditions of teacher education summarised above (morality; skills; equity; knowledges) has added to the current elaborated view of the profession of teachers and what they should "know" and "be able to do". Teachers are expected to uphold high professional values and behave ethically (morality); they are expected to be skilled in the routine procedures of teaching (skills); they are expected to have a commitment to the national goals of education focussing on equity and excellence for all students (equity); and they are expected to have mastered the range of knowledges that underpin the professional act of teaching (knowledges). The QCT professional standards drew upon this history by defining for each of the 10 standards a set of associated: *practices* (including skilled behaviours and procedures); *knowledge* (including disciplinary content knowledge and Shulman's taxonomy) and *values* (including educational values related to each standard and personal values and ethical conduct). The equity tradition is incorporated as a separate standard – Standard 4 - which specifies a particular focus on Indigenous culture as well as consideration of students' socio-economic circumstances, location, gender, sexuality, ethnicity, culture, language, religious beliefs and individual needs. The equity reform tradition remains pertinent to the on-going challenges that teachers and teacher educators confront regarding equity and excellence in schooling (Melbourne Declaration, MCEETYA, 2008).

It is important, therefore, to consider the historic movement towards greater recognition of teaching as a profession based on widespread recognition of a distinctive knowledge base, pedagogical know-how and professional values, and the flexible and skilled deployment of that cluster of capabilities to enhance student learning in particular community contexts.

3.0 Assessment in Teacher Education Programs

What teachers “know” and “can do” has been assessed in different ways depending upon the types of theory, knowledge and practice that are being assessed. A useful way of summarising the main assessment traditions in teacher education is to consider how theory, knowledge and practice have been related.

3.1 Separating Theory, Knowledge and Practice

Since the 1960s, the most common model of teacher education has positioned the university or college as the site to acquire the theoretical foundations of teaching and disciplinary content knowledge, and the school as the site to apply this knowledge and learn the classroom skills of teaching.

Assessing disciplinary content knowledge

Following Shulman’s (1986, 1987) framework, the nature and extent of preservice teachers’ disciplinary or content knowledge has come under scrutiny. Registering, certifying and employing authorities are interested in questions of teachers’ mastery of the subject matter to be taught (e.g. NBCT) and the relationship of this knowledge to teachers’ pedagogical content knowledge and subsequent practices (e.g. teachers’ ability to design and implement learning experiences in line with the QCT’s Professional Standards).

Research suggests that increased content knowledge generates improved teacher practices in content accuracy, lesson and unit coherence, teacher questioning, and propensity to adopt refined pedagogical content knowledge (e.g. Capraro et al., 2005). Further, increased content knowledge improves the self-efficacy of teachers, understood as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3), which in turn positively correlates to student learning outcomes (e.g. Palmer, 2006; Swackhamer et al., 2009).

Disciplinary knowledge tends to be taught by disciplinary experts sitting outside and inside Education units, and assessed using conventional university assessment tasks such as examinations, assignments, laboratory write-ups and the like. The rigor of this approach lies with the university’s quality assurance systems introduced in Section 2 of this report.

In parts of the USA, content knowledge is tested in the form of examinations specific to the discipline and teaching level as part of licensure. In discipline-specific research, multi-method approaches to assessing content knowledge comprise tests, self-reflection questionnaires, interviews and observations in a bid to ascertain how much disciplinary knowledge is required by preservice teachers, what are the most appropriate ways to assess this knowledge, and how this knowledge can be most effectively translated into teachers’ planning and practice (e.g. Abbitt, 2011; Inan, 2010). In order to maintain the currency of disciplinary knowledge, teachers need access to high quality continuing professional development (CPD) and ready access to relevant resources.

As noted earlier in this report, Deborah Ball (Ball & Bass, 2000; Ball, Thames & Phelps 2008) has proposed the view that teaching requires specific types and levels of disciplinary knowledge (disciplinary knowledge for teaching) so it cannot be assumed that every graduate from various non-education degrees will necessarily have “at hand” the depth of understanding of all concepts they require to be effective teachers. Graduates entering teacher education programs will be expected to

review, enrich and extend their disciplinary knowledge as they learn about the school curriculum and the ways to translate their knowledge into forms that can be understood by their students.

Assessing educational theory and knowledge

Assessment of educational theory and knowledge at university has followed accepted tertiary methods of assessment described above including written and oral assignments, reviews of research literature, as well as examinations, tests and quizzes designed to assess key concepts and their implications for pedagogy and curriculum. There are multiple assessment tasks for units of study and students are provided with feedback on their performance in order to facilitate their learning. Formative and summative assessment, therefore, are common practice in degree programs. Criterion-based assessment is taken for granted in most programs, and moderation between assessors is routinely required. Assessment processes at universities are highly regulated and monitored by program boards and committees to ensure quality processes, integrity, and fairness.

Assessing teaching practice

Assessment of teaching practice in school sites has been based on observation and ratings of preservice teachers' competencies linked to core aspects of classroom teaching, and in recent years to professional standards. The assessment of practice is typically conducted by supervising teachers in consultation with university staff whose role varies in different programs. Where there are borderline judgements to be made regarding competence, university staff are likely to observe lessons and offer advice and contribute to the overall judgement of competence. The recent Victorian report by Ure, Gough and Newton (2010) provides detailed accounts from the perspective of supervising teachers and preservice teachers of the pitfalls in the current approach. While highlighting that "research on what makes the most effective teacher education programs remains disappointingly sketchy" (Ure et al., 2009, p. 47), they concluded that there should be greater collaboration and communication between school-based teacher supervisors and university staff, and greater support (material and professional) for the work of teachers during practicum. Key recommendations included:

Increasing the links between the placement experience and the academic content of the programs to create more informed knowledge about the application of pedagogy;

Research that examines the nature of the learning experience and how supervising teachers can engage with preservice teachers to provide co-constructed learning experiences that are framed by professional knowledge and dispositions;

Higher education providers should review how the practicum is supervised and work with supervising teachers to establish greater consistency between the practical and theoretical parts of the teacher education programs;

Higher education providers should review how well the academic elements of programs and the requirements and supervision processes in the practicum component of teacher education programs supports learning that reflects the Professional Standards for Graduating Teachers" (Ure et al., 2009 p. 59-72).

These recommendations point to the need for greater integration of theory, knowledge and practice, and greater collaboration between university staff and the school-based supervisors and mentors of pre-service teachers. We turn now to the theme of *integration*.

3.2 Integrating Theory, Knowledge and Practice

The division between educational theory and educational practice has persisted even though there are integrative concepts (such as educational praxis, reflective practice, and more recently evidence-based practice or evidence-informed practice) that suggest this division is inadequate as a way of characterising the professional actions and decision-making by teachers. Lee Shulman's (1986; 1987) taxonomy of knowledge types includes pedagogical content knowledge, the unique type of teacher knowledge that is an amalgam of practical and theoretical knowledge. So Shulman's model itself poses a significant challenge to the theory-practice divide.

In recent years the move to establish partnerships between universities and school clusters in delivering teacher education programs has provided a context for extended conversations between university-based staff, school-based staff and preservice teachers regarding the two-way nexus between knowledge and practice. In these conversations, theory and research enrich and extend the range of practices considered in designing pedagogy and curriculum units, and in turn, as the pedagogy is implemented, new insights recursively loop back to the transformation of theory and research.

In addition to new forms of partnership between universities and schools, the notion of authentic assessment has been seminal in challenging the theory–practice divide. Authentic assessment requires preservice teachers to deploy combinations of knowledge, skills, and dispositions in their professional life. Authentic assessment makes the core aspects of teaching visible and measurable against a set of agreed standards. Authentic tasks engage preservice teachers in processes that are necessary to act professionally in planning curriculum units for a specific group of students, designing episodes of teaching, teaching, and evaluating the effectiveness of their teaching. Authentic assessment, therefore, requires preservice teachers to be explicit about their thinking and decision-making in designing teaching episodes, to reference the sources and rationale for their ideas, and to reflect upon the actual teaching experience and plans for revising and redesigning the teaching episodes. This dissolves the division between theory and practice and creates a system of reflective practice that adds to the professional knowledge of teaching.

3.3 Summary

Assessment in teacher education has been based on different models of the relationship between theory, knowledge and practice. The most common model has separated theory, knowledge and practice. Theory and knowledge have been taught and assessed on the university campus while practice has been enabled and assessed at school sites, and other educational settings. The quality of these assessment practices has been monitored and assured in increasingly explicit and regulated ways. Assessment policies at universities require criterion-based assessments and multiple forms of assessments, including formative feedback to students throughout the semester. Nonetheless, the separation of practice from theory and knowledge has been challenged as inadequate and alternative forms of integrated assessment have been proposed. These include authentic assessment tasks and extended placements at school sites where experiences in the classroom can be theorised and reflected upon, thereby informing future plans and actions.

4.0 Features of a High Quality Assessment System

Below eight key features of an assessment system are proposed that we suggest will ensure quality graduates from preservice teacher education programs. The features are described as broad principles and/or common practices rather than as prescriptions for uniformity. There are multiple ways to deploy these features and ensure a quality assessment system.

These features of assessment cannot be implemented without some reconsideration of the overall structure of the teacher education programs and the provision of resources to enable quality programs and quality assessment to be implemented. In a number of examples presented in Section 6 and Section 7 the authentic and high quality assessment practices have been underpinned by extended teacher education programs of five or six years duration (for example in Finland, and the STNE at Aberdeen Scotland) or extra resources have been directed to trial and develop innovative practices (for example, Deakin or Melbourne). Nonetheless, Section 5 of the report provides concrete examples of how authentic assessment might be achieved (cases, exhibitions, portfolios, e-portfolios, inquiries and research) and there are international examples (Section 6) and national examples (Section 7) that can assist in guiding future policy directions and practices.

4.1 The system is based on principles of authentic assessment

Trustworthiness of assessment is enhanced when the assessment process and practices are based on the features of authentic assessment as outlined in the following key points:

- Authentic assessment samples the actual knowledge, skills and dispositions required of teachers as they are used in teaching and learning contexts.
- The assessments require the integration of multiple kinds of knowledge and skill as they are used in practice. For example, enhancing a child's literacy development might rely upon: (i) knowledge of research and theory about literacy development, processes of learning, curriculum design and assessment; (ii) instructional skill in the use of literacy strategies and diagnostic and formative assessment practices; (iii) expertise in the collection and analysis of data about children's literacy learning; and, (iv) reflection upon the data collected, its meaning, and implications for instruction.
- Multiple sources of evidence about the competence of preservice teachers are collected over time and in diverse contexts; for example, written analyses, observation data (such as from a supervisor's observation), and samples of student work from the preservice teacher's classroom. Performance in different contexts of teaching and different communities is assessed.
- Assessment evidence is evaluated by teacher educators and experienced teachers using explicit criteria that align with agreed professional standards and the specific educational commitments of the teacher education program.
- The assessment includes multiple opportunities for the preservice teachers to learn and practice the desired outcomes, to receive feedback and coaching, and to be encouraged to reflect on and learn from experience.

4.2 It is a system of assessment that is moderated within programs, informed by sharing quality assessment practices across the sector, and meets the requirements of reliability and validity

Trustworthiness is also enhanced when assessors engage in rigorous monitoring and evaluation of the process and outcomes of assessment over time. Such monitoring involves the following processes:

- Moderation of judgements between assessors within each program of teacher education.
- Sharing assessment processes and examples of assessment products between assessors from different institutions to enhance current practices in assessment and inform further development of assessment procedures. The primary purpose here is to improve assessment practices within a collaborative professional community.
- Collecting data within each program on the consistency and reliability of the judgements of assessors across the range of assessment tasks that inform summative judgementsⁱ.
- Collecting evidence on the validity of assessors' judgements about the effectiveness of preservice teachers. Evidence could include judgements of effectiveness by supervising teachers during the induction year. It could also include collecting evidence during the practicum and internships of changes in student learning outcomes, motivational levels or levels of classroom engagement. Ideally such data would be collected concurrently and predictivelyⁱⁱ.

4.3 It is a system that enhances the capacity of preservice teachers for self-assessment and reflection on their levels of developing knowledge and practice

We need to consider *what* we are assessing, *how* we are doing it but also *why* (Brown & Knight, 1994). Assessment in teacher education has the primary goal of developing preservice teachers as self-monitoring and self-assessing professionals who are able to learn reflectively from their experiences and practices. In this context formative assessment and feedback is crucial in directing the learning of preservice teachers.

Formative assessment tasks can be designed as rich tasks that integrate learning across different units of study, and entail connecting learning in schools with knowledge acquisition and enquiry at the university site.

Summative assessment tasks need to develop from these formative assessment tasks and offer the preservice teachers the opportunity to demonstrate the improvements that they have achieved and the learning journey they have accomplished.

4.4 It captures the complexity of teaching

Teaching is a professional activity that draws upon multiple sources of knowledge and requires the capacity to act flexibly and effectively in different contexts with diverse students. Teaching entails:

- Integrating the various professional knowledge types (content, pedagogical content knowledge, knowledge of learners etc.) required in the act of teaching.

- Teaching skilfully by drawing flexibly on a repertoire of practice relevant to different contexts and student needs.
- Forming professional relationships with students, their carers and communities in order to respond to their needs and promote excellence in learning outcomes.
- Enacting value commitments to equity and care in teaching.

4.5 It captures the multifaceted nature of teaching in a comprehensive manner

Teaching has been divided into four interconnected stages by most researchers and practitioners : (i) Planning and preparation; (ii) Classroom instruction and implementation; (iii) Assessment and feedback; (iv) Reflection and professional dialogue linked to future teaching episodes. Teaching extends beyond the classroom walls and the school gate, and this is clear particularly in considering the first (Planning and preparation) and last stages (Reflection and professional dialogue). In elaborating components of the four stages the following multi-faceted aspects of teaching should be included in assessment tasks for preservice teachers. The following is indicative of the key tasks involved at each of the four stages.

- Planning involves:
 - Knowing the importance of, and procedures for, researching the local community and the relationship of the school to the community;
 - Knowing the importance of, and procedures for, diagnosing the funds of knowledge, interests and relevant learning history of students.
- Preparation involves:
 - Using knowledge of the community and students to select options offered in the curriculum;
 - Planning curriculum units taking into account what students know and bring to the classroom.
- Classroom instruction involves:
 - Designing and implementing sequential episodes of teaching for diverse students;
 - Adjusting teaching in responsive ways to evidence of student learning and engagement.
- Assessing involves:
 - Ongoing formative assessment and feedback designed to enhance student learning and promote engagement;
 - Summative assessment designed to provide evidence of current attainments and to inform decisions about choices and future plans of students.
- Reflection and professional dialogue involves:

- Sharing problems and issues with colleagues and consulting with them about different strategies;
- Reviewing the outcomes of teaching and considering ways to improve the learning of students;
- Considering what worked well or not and why.

4.6 It reflects the overall goals for education in Australia as currently agreed and elaborated in the Melbourne Declaration

The Melbourne Declaration places a great deal of emphasis on the role of teachers and schools in ensuring equity as well as excellence in educational outcomes for diverse students and their communities. Goal 1 of the declaration is stated as: “Australian schooling promotes equity and excellence.” This goal is further elaborated explicitly in terms of concerns for specific sub-groups of the Australian population – Indigenous students, disadvantaged students, students with special needs, homeless students, refugees, and those in remote locations. It is also explicitly stated in the Melbourne Declaration that teachers and schools need to ensure that socioeconomic disadvantage ceases to be a significant determinant of educational outcomes.

The focus of preservice teacher education programs and their assessment practices need to be cognizant of this emphasis and consider to what extent graduates have the knowledge, skills and value commitments to address this equity goal and ensure excellence in educational outcomes for all students.

4.7 It aligns with current national (AITSL) and state (QCT) professional standards

The Graduate Standards underpin the accreditation of initial teacher education programs. The Standards have provided the fundamental framework for designing the programs of teacher education. Assessment practices within teacher education programs need to provide evidence that all Standards have been met and that each graduate has demonstrated the knowledge skills and values required of a beginning teacher.

The QCT Standards capture the intersection of practices (skills), knowledges, and values across the range of complex and interrelated tasks that comprise the professional activity of teaching. In this respect the Standards framework is central to all the other features of the assessment system that we have described in this section.

4.8 It has support from key stakeholders

Key stakeholders include university regulators (such as Faculty boards and Academic committees) and external regulators (such as the QCT) that have a role in the approval and accreditation of degree programs, courses and units of study. By adopting the principles of authentic assessment, ensuring the comprehensiveness of assessment, and addressing issues of consistency, reliability and validity, the basis for stakeholder confidence can be established.

Stakeholders also include the schools and educational sites where preservice teachers complete their practicum placements. Building collaborative partnerships with these stakeholders and providing space for their genuine participation in the mentoring and assessment of preservice teachers will

enhance their commitment to the program of teacher education and their confidence in the assessment process.

The employers of graduates are crucial stakeholders and confidence in the assessment process is vital to their decisions to recruit beginning teachers. Providing detailed information to employers about assessment practices and providing opportunities for employers to act as expert reference group members on program panels and/or assessment boards would build support and confidence in the assessment practices.

5.0 Authentic Assessment Tasks

In the assessment literature on preservice teacher education a number of specific assessment tasks have been proposed that enable more authentic assessment to be conducted. These tasks (Cases; Exhibitions; Portfolios; e-Portfolios; Inquiries and Teacher Research) require preservice teachers to integrate knowledge across domains and to consider in a reflective and reflexive manner the nexus between theory and practice. These tasks can be designed in various ways and are open to innovation. The summary below provides an overview of current ways these tasks are implemented. As we further explore in Section 6 and Section 7 these types of tasks are being adopted nationally and internationally as assessment practices are reviewed in various localities across the world.

5.1 Cases

(Note that this section on *Cases* is largely summarised from Darling-Hammond & Snyder, 2000).

Cases provide an assessment strategy that foregrounds issues of context. Cases allow for the rich description of a situation taking into account interactions between the diversity of students, the subject matter of the curriculum, the surrounding community and the history of the case and context. Cases can be selected and written to analyse best practices and identify models and examples to emulate; or they can be selected to reveal tensions and difficulties that arise in current practices; and through analysis and reflection different courses of action can be proposed to transform the situation.

Cases enable the foregrounding of different points of view whether from a student, teacher, parent, principal or outsider perspective. Such affordances of cases are crucial to the development of a decentred understanding of teaching, and to the realisation that there are many possible angles of vision to a teaching event.

To avoid the pitfall of the case becoming merely an idiosyncratic story of one situation it is important to embed the case writing in a broader curriculum of selected readings, drafting and sharing of cases between other students and educators and inviting commentary and discussion.

The assessment of the case entails judging the extent to which the writer has captured the richness and complexity of the situation and has been able to analyse and interpret the case in the light of relevant theory and prior research in order to reach a new level of insight and understanding about teaching and learning processes in particular contexts.

Assessment tasks can be set that require different approaches to cases. They can be first person narratives of teaching, observing and reflecting on one's experience. They can be third person accounts of a school, a class or a specific student or group of students that enable the application of different theories and perspectives to practices and real-life situations. Cases can also be devised as unfinished accounts of the real messiness of actual situations and this provides the provocation for further analysis and possible action as different theoretical frames are applied and discussed in a community of inquiry. The first requirement in these assessments tasks, therefore, is to really understand and appreciate the case and the second requirement builds on that understanding by requiring students to consider different proposals for acting effectively as a teacher in that context and other similar contexts.

5.2 Exhibitions of Performance

Exhibitions enable the evaluation of teaching performance against a set of professional standards. The task is devised to closely align with actual teaching demands but it may focus on a specific sub-aspect of the entire teaching task. As Darling-Hammond and Snyder (2000) note,

Exhibitions allow teachers to demonstrate particular abilities in ways that include or closely simulate teaching contexts or events. For example it may entail planning a series of lessons or a unit of study for a specific group of students based on some evidence of their current learning and aptitudes. Exhibitions can draw upon tools such as observations or videotapes of teaching, artifacts like teaching plans, or even group activities that simulate what teachers do when solving problems of practice with colleagues. The distinguishing feature of an exhibition that differentiates it from an unguided observation of practice is that it allows the evaluation of these abilities in relation to articulated standards of practice (p.534).

Exhibitions may entail selecting specific events to videotape from a longer teaching episode to review, analyse and reflect upon with others including a mentor teacher, a teacher educator and perhaps a fellow student.

Alverno College, (see Section 6 of this report), has embedded exhibitions of performance throughout its degree program. Graduates from Alverno are regarded as well prepared practically for the classroom and with an advanced capacity for reflection on their practice. The key to the success of the Alverno program is that assessment tasks are cumulative, embedded throughout the program from the first semester of enrolment and integrate exhibitions of performance with an explicit set of standards, and with attention to different goals, contexts, and intentions of teachers and students.

In the context of Australian teacher education preservice programs there are extended opportunities for “exhibitions of performance” during professional placements, practicum and internships. These school-based opportunities vary in design, duration, scheduling across the program, and assessment procedures but typically a preservice student is guided by a teacher (who is both mentor and supervisor) to gradually take-over responsibility for teaching a specific class. The preservice teacher typically moves from observation, to assisting individual students and groups of students, to designing and teaching specific lessons with assistance from their mentor teacher, to finally designing and teaching complete curriculum units independently or with minimal guidance and support from their mentor teacher. Their performance is progressively assessed against a set of criteria that includes reference to professional standards and key aspects of a teacher’s role in planning and implementing lessons and curriculum units and assessing student learning. In best practice examples of such school-based opportunities, there is a close partnership between the university-based staff and the school-based staff. Teachers are well-informed of the requirements and expectations set by the university, have received specific guidance in how to support the preservice teacher, and team with the university staff to finally assess the performance of the preservice teacher against the criteria. The establishment, maintenance and quality assurance of these



school-based opportunities and partnerships are costly so any proposed reforms or innovations need to take account of the resource implications for teacher education programs.

5.3 Portfolios

Portfolios are means by which preservice teachers can document their professional competencies by selecting and reflecting upon artefacts of their practice that have been compiled from multiple sources and diverse contexts across time to provide evidence of their thinking, learning, and performance (Darling-Hammond & Snyder, 2000).

There are different types of portfolios:

- > *Learning Journey* – Compilations of resources, assignments, achievements and reflections serving a learning and formative assessment function.
- > *Showcase* – Selected best performances and achievements indicating individual progression and talents that could be used in an application for a teaching position.
- > *Demonstration* – Selection of artefacts, performances and achievements in relation to a specific set of professional standards serving a summative assessment function.

As Dixon, Mayer, Gallant and Allard (2011) suggest, in compiling showcase portfolios preservice teachers freely choose artefacts that represent their best work. In portfolios that are meant to be used as a tool for professional learning, preservice teachers' selection needs to be more scaffolded to include specific artefacts, such as a statement of teaching philosophy, a videotape of their teaching, lesson plans or units, or original curriculum materials they have developed, with accompanying analytical reflections. While a great deal of time and effort goes into the compilation and assessment of these portfolios, they serve primarily a formative purpose. However, if a portfolio is to be used to support a graduation or registration decision, then the design and the development of the assessment must be much more structured and measurement issues need attention.

[A teacher's portfolio] can be used as a summative evaluation tool, but to do so requires a much more structured process and a complex set of assessment strategies. The assessment component requires clear criteria, an established set of reliable and valid scoring rubrics, and extensive training for the evaluators in order to ensure fairness and reliability. These considerations can all be met, but they are often beyond the capacity or the will of a local university (Wilkerson & Lang, 2003, pp.94-95).

Portfolios can provide robust evidence of teacher competencies, especially when they are organised in relation to explicit standards such as the professional standards of the QCT, and they reflect growth across time. Portfolios also can provide evidence regarding different aspects and phases of the professional work of teachers in *planning* for teaching, *designing* curriculum units for a specific group of students, *implementing* the plan through teaching processes and strategies, *assessing* student learning, and *communicating* effectively with the students and their parents regarding progress and focus.

But portfolios are not just repositories of evidence about teaching episodes. They also reveal the preservice student's reflections and provide insight into their decision-making processes so their growth as professionals can be traced and documented. Lee Shulman (2004, pp.342-346) emphasized this in his extended description of teaching portfolios as the carefully selected sets of coached or

mentored accomplishments substantiated by samples of student work and fully realized only through reflective writing, deliberation, and serious conversation. As Darling-Hammond and Snyder (2000) note also “by giving assessors access to teachers' thinking as well as to evidence of their behaviours and actions (e.g. through videotapes, lesson plans, assignments, and the like), portfolios permit the examination of teacher deliberation, along with the outcomes of that deliberation in teacher's actions and student learning” (p.539).

Another benefit of portfolios is their affordance of what Boud & Falchikov (2007) call *future learning*. Portfolios require students to monitor the quality of their work during the act of production itself. Portfolios involve students in the direct monitoring and regulation of their own learning as they reflect on their achievements and select work that they believe demonstrates that they meet or exceed certain standards (for more details see, Nicol & Milligan, 2006). This means that students are engaged in higher levels of cognitive functioning making judgements about the quality of their work in relation to specific professional standards.

5.4 E-portfolios

In many ways e-portfolios are similar to traditional portfolios of professional learning and development evidence. These similarities include the typical content of the portfolios (such as lesson plans, student work samples, assessment items) and the purposes that they serve (including preservice teacher growth and development, demonstration of specified standards and as basis for certification/registration) (Wray, 2007). In general, e-portfolios can be observed as operating in two forms (Gibson & Barrett, 2003).

The first form are commercially or systemically developed and administered products that provide an electronic framework with predetermined elements to be populated with relevant evidence by preservice teachers (Wray, 2007). The second general form that e-portfolios can take is more student or participant driven where the standards (or prescribed learnings) are defined systemically, while students have greater autonomy over the way the evidence is collected and presented in electronic forms (Gatlin & Jacob, 2002). Since portfolios can have such different purposes and characteristics there is a need to define what kind of portfolio should be used before the implementation process is initiated (Granberg, 2010).

Granberg (2010) explains that there are several examples of initiatives at the national level that demand or encourage teacher education institutions to use e-portfolios to ensure quality standards and/or support student teachers in lifelong learning (Butler 2006; Strudler and Wetzel 2005; Wray 2007). In Europe, in particular, e-portfolios in teacher education programs have become widely used for a number of purposes, including to meet national professional standards for registration; as a requirement for accreditation of programs; and to improve the quality of the students' learning (Butler 2006; Strudler & Wetzel 2005; Woodward & Nanlohy 2004). In these European contexts, portfolios have been categorised into different types depending on their purpose. These purposes have categorised as: (i) *process, reflective or learning portfolios* for encouraging student teachers to reflect on their learning process supported by teacher educators' formative assessment; (ii) *credential or accountability portfolios* for assessing student teachers summatively; and (iii) as *marketing portfolios or showcases* for showing student teachers' accomplishments to future employers (Butler 2006; Zeichner & Wray 2001).



Granberg (2010) summarised studies that have shown that e-portfolios can enhance student teachers' professional learning and their reflection on their work (Beck & Bear 2009; Hauge 2006; Pelliccione & Raisen 2009). E-portfolios may also serve summative assessment of student teachers, and different designs to carry out summative assessments of e-portfolios are presented in the literature (Strudler & Wetzell, 2005). In summary, the numerous reported benefits of e-portfolios include:

- > The promotion of preservice teachers' *reflective* engagement with valued content or professional expectations (Pelliccione & Raison, 2009), as well as enhanced integration of professional standards and evidence (Wray, 2007). For example, the electronic medium allows for preservice teachers' philosophical statements of practice to be instantiated by reproducible evidence through hyperlinks to repositories of such evidence.
- > The promotion of the preservice teacher ownership of the evidence collected and the form of its presentation (Lin, 2008).
- > Ease of evidence updating, as well as more efficient central storage and administration of preservice teachers' evidence of professional competence (Wray, 2007).
- > Versatility in the development of portfolios, including enhanced distribution, access and review of materials, and central exemplification of the forms of evidence required of preservice teachers.
- > E-portfolios allow for the collection and presentation of more rich and valid forms of evidence such as digital videos and audio files, photos, and digitally annotated samples of student work. Moreover, the electronic platform also allows for feedback avenues that are more rich and helpful to the professional learning and development of preservice teachers (Buckley et al., 2009).

This final benefit of e-portfolios is particularly significant in professional fields that are characterised by competencies situated within both psychomotor and cognitive learning domains. Recognising the necessity for collecting, presenting and reviewing evidence of *practical skills* in more authentic contexts of practice, health and medical educators in Australia and internationally have increasingly employed e-portfolios as a means of assessing and verifying readiness for professional practice (Buckley et al., 2009). The reported value of e-portfolios in these professional learning and recognition contexts has included:

- > Improvement in student understanding and knowledge, including better integration of theory with practice (Buckley et al., 2009).
- > Enhanced student self-awareness and reflection, including increased tendency to and quality of reflection (Buckley et al., 2009; Rees, Shepherd & Chamberlain, 2005).
- > More authentic and valid measures of practical skills and communication competence (Epstein, 2007; Miller & Archer, 2010).
- > Enhanced confidence of instructors and administrators in the general competence of developing health and medical practitioners.

While the evidence supporting the use of e-portfolios for the assessment of developing professionals in fields such as teaching is compelling, there are nevertheless some difficulties associated with their deployment. These difficulties have been identified across a range of professional learning contexts, including teacher education and health and medical education. Notably, the time and technological

competence required to compile an electronic portfolio was considered a challenge (Buckley et al., 2009; Wray, 2007; Wilhelm et al., 2006). However, the impact of technological competence on e-portfolio efficacy generally depended on the degree to which the pre-professional students were required to manipulate the medium through which evidence was presented (Lin, 2008). Access to necessary peripheral technologies (such as digital video cameras and audio recording equipment) and hi-speed internet can also pose difficulties for the implementation of e-portfolios.



In order to optimise their effectiveness, e-portfolios should utilise a simple, clearly presented user interface (Wray, 2007) that is based on a concerted and demonstrable alignment of the standards, expected forms of evidence and media for their display (Wilhelm et al., 2006). While this is most likely to require centralised development and administration, offering presentation flexibility can enhance pre- and in-service teacher ownership of the evidence and process and promote reflective practices.

5.5 Inquiries and Teacher Research

Much of the knowledge and research on learning and schooling processes is derived from the humanities, the social sciences and from studies of growth and human development. This broad sweep of knowledge is invaluable for teachers in understanding their practices and proactively responding to the challenges that they face

in different schools and communities. However the translation of the insights inherent in such knowledge into actual decision making and strategic action is complex. For generations of teachers this crucial task of translation was largely left unexamined and regarded as part of their individual professional development. With the growth of applied educational research conducted in realistic contexts of learning in schools, the translation process per se is now being researched. Considerable knowledge has been accumulated in the last two decades. Certain forms of teacher research and collaborative partnerships between teachers and researchers have also added to a growing body of professional knowledge. Such teacher inquiry has increased the relevance and applicability of research to actual contexts of practice and highlighted the importance of ongoing research collaborations between teachers and teacher educators (Groundwater-Smith & Mockler, 2006).

In a recent article Lingard and Renshaw (2010) distinguished between evidence-informed practice and evidence-based practice, preferring the former (evidence-informed) because it highlights the importance of the situated decision-making of teachers who necessarily must consider simultaneously multiple factors in deciding what to do at any moment in their teaching. By choosing evidence-informed, Lingard and Renshaw acknowledge effective teachers integrate their understanding of educational theory and research with their appreciation of the local particularities of each teaching context. To be an effective teacher, preservice teachers will need to be mentored into this process of developing their practice in a thoughtful and evidence-informed manner in local contexts.

Problem-based inquiry or directed inquiry involves more systematic research than case studies, though both are concerned with marshalling evidence and basing decisions about teaching practices

on cyclical processes of planning, action, evaluation, reflection and replanning. The most commonly used method of directed inquiry is action research, and in Australia the work of Kemmis and Grundy has been influential since the 1980s (Carr & Kemmis, 1986; Kemmis & McTaggart, 1988; Grundy, 1982; Kemmis, 1993).

When engaging in an action research project, preservice teachers are required to select a teaching or educational issue or problematic situation to investigate, to review associated research literature and educational programs and approaches, to plan a course of action integrating their interpretation and understanding of the local context with the evidence and insights derived from the literature, to implement the course of action and collect data on the effectiveness of the action, and to reflect with others on the cycle of planning, action and evaluation in order to develop insights and provide evidence for the new cycle.

Grundy (1982) and Kemmis (Carr & Kemmis, 1986) used Habermas' theory of human interests to distinguish between three forms of action research:

- (i) *Technical action research* has a specific focus to improve an aspect of a school or classroom and is concerned with making the school or classroom function more effectively. The methodology of technical action research is based on positivist assumptions about observable changes and causal relationships between factors.
- (ii) *Practical action research* is conceived in terms advocated by Donald Schon (1983) and John Elliott (1978), and involves a quest for better understanding of professional practices through systematic reflection on actions and experiences.
- (iii) *Emancipatory or critical action research*, is committed to certain social values and comprehends research as always (in one way or another) connected to social values of fairness and justice. As Kemmis (1993) notes, this form of action research "sees the connection between social research and social life as intrinsic to research as an activity, not extrinsic, or instrumental..." (p.3).

Marilyn Cochran-Smith has been an advocate for teacher research and the development of a culture of research and evidence-based practice amongst teachers, particularly evidence that is mediated through teacher inquiry, action and reflection in local contexts of practice. Her approach to teacher education and to the assessment of preservice teachers is similar to the third mode of action research summarised above. Likewise since the 1990s, the teacher educators at Victoria University have incorporated action research in their capstone applied curriculum project that preservice teachers complete during an extended practicum in collaboration with supervising teachers in low SES schools.

6.0 International Examples of Authentic Assessment

6.1 European Perspectives

6.1.1 Finland

The iconic status of Finland in PISA suggests that consideration should be given to the structure of teacher education and the expectations of what graduate teachers know and can do in Finland. Ostinelli (2009) compared teacher education programs across Italy, Germany, England, Sweden and Finland. Finland was distinguished by the following features: (i) the teaching profession has a high status within Finland; (ii) entry to teacher education programs is competitive with only 10–15% of applicants accepted; (iii) Finnish teachers in general have an enlarged sense of their professionalism; (iv) Finnish teachers are very motivated with few (only 10-15%) considering changing careers; (v) young teachers consider the profession from the standpoint of lifelong learning, showing a positive and realistic orientation towards the future.

Of particular relevance to the issue of assessment of preservice teachers, in Finland educational research has played an important role in teacher education programs since the 1980s, and considerable attention has been given to knowledge of research methodologies and ways of inquiring systematically into processes of teaching. Ostinelli (2009) notes that “today, this finds its full expression in the use of scientific methodologies of research by students while writing their Master’s thesis. This leads teachers to act and think like researchers while teaching” (pp.303-304).

This viewpoint is echoed by Tuovinen (2008) who summarised the key issues with regard to the Finnish teacher education system as follows:

A key aspect of the development of a professional teacher is the development of the understanding and use of the research process and increasing knowledge of the best research literature relating to the issues of concern to teachers. In practice this means that all teacher education students study research methods and undertake research projects integrated throughout their normal studies, culminating in a Masters’ thesis at the end of their studies (Westbury et al., 2005). These projects are usually focused on issues that arise from their practice teaching experiences. The fundamental purpose of the research-based teacher preparation program is to develop the teacher education students’ capabilities to operate as autonomous professionals in the field who are able to “think and act on the basis of theory and research, and to justify educational decisions using formal, systematic arguments, ...” (Westbury et al., 2005). Westbury et al. (2005) encapsulate the Finnish perspective of research-based teacher education in the following words: “To summarise, the research-based teacher education that is the heart of Finnish teacher education and formalised by the writing of the master’s thesis, is directed at preparing students for both critical thinking and autonomous decision making, and thus for action guided by a gradually elaborated practical theory” (Tuovinen, 2008, p.3).

While the confluence of features of Finnish teacher education cannot be regarded as causing better learning outcomes for students, it is worth remembering, in drawing implications from this report, the distinctive Finnish emphasis on developing high level research skills in preservice teachers and promoting their professional identity as researchers of teaching.

6.1.2 OECD

OECD (2005) in the seminal report, *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, found that there was widespread recognition of the need for clear and concise statements of what teachers are expected to know and be able to do. The OECD report (2005) suggested that the profile of teacher competencies needs to derive from the objectives for student learning, and should provide profession-wide standards and a shared understanding of what constitutes accomplished teaching. Verity Donnelly (2010) in compiling a review of current teacher education practices in Europe argued that teacher profiles need to include subject knowledge, pedagogical skills, the capacity to work effectively with a wide range of students and colleagues, to contribute to the school and the profession, and to continuing and life-long learning. Such a profile, Donnelly suggested, can help to align all the elements involved in teachers' development and support work to ascertain whether teacher development programmes are making a difference.

In addressing the innovations in Europe regarding assessment of preservice teachers Donnelly (2010) highlighted in particular the importance of portfolios:

Regarding assessment in initial teacher education, Conderman (2003) suggests that the use of portfolios can ensure that competencies are met. Portfolios are widely recognised as a useful way to gather information and report on student progress. In the Teachers for all Children programme (Stoddard et al., 2006) an on-going professional portfolio aims to ensure that the student has demonstrated competence in the domains of assessment, instruction, classroom management, collaboration, systematic inquiry and professional ethical behaviour. Portfolio entries include self-reflections, work examples, plans with strategies, resources and summaries of experiences.

Portfolios can support the assessment of 'softer' areas such as the affective aspect of being a teacher (Phelps, 2006), collaboration and work with parents as well as academic content and critical thinking, in particular around areas such as multicultural perspectives. Portfolios encourage students to reflect on what went well and what could have been improved after any work but dialogue and feedback are essential to maximise student learning.

Orland-Barak and Kremer-Hayon (2001) researched two types of portfolios – product portfolios and process portfolios – and concluded that the portfolio itself probably does not control the quality of reflection, but that discussions and co-operation with others play a very important role. Mansvelder-Longayroux et al. (2007) point out that student teachers generally already ask the 'what works' and 'how can I' questions, but that portfolio supervision should aim to encourage them to ask the 'why' questions. For this reason, the portfolio process, although more authentic, is likely to be more labour intensive for tutors than traditional exams. To decrease subjectivity, handbooks and other specific evaluative criteria may be introduced. Initial teacher education institutions need to consider modelling a range of assessment techniques to take account of learner diversity within their own courses (Donnelly, 2010, pp. 39-40).

A key point made by Donnelly is that portfolios provide a context for professional discussions and cooperation with others. Simply compiling the portfolio appears less efficacious for

professional learning than the on-going opportunities it provides for in-depth discussions about teaching and student learning.

6.1.3 Scotland

Donaldson (December, 2010) authored the Government Report, *Teaching, Scotland's Future: Report of a Review of Teacher Education*. See: <http://scotland.gov.uk/Publications/2011/01/13092132/0>

This report drew upon a more extensive review of research published earlier in 2010, entitled, *Literature review on teacher education in the 21st century*, conducted by a team from the University of Glasgow, led by Ian Menter. See: <http://www.scotland.gov.uk/Publications/2010/09/24144019/5>

While the reviewers of the literature (Menter, Hulme, Elliot & Lewin, 2010) provided a rich set of options for consideration regarding teacher education programs and assessment, the actual report and its recommendations (Donaldson, December, 2010) were more restrictive and prescriptive. The relevant recommendations are summarised below, and as can be seen, place emphasis on literacy and numeracy testing and more rigorous entry requirements into teacher education programs. It is informative to note that the Report acknowledges that the concern about preservice teachers' literacy and numeracy "was largely impressionistic and applied only to a minority of students" but nonetheless the Report concludes that "the concern ...needs to be addressed". The recommendations of relevance to this current report are reproduced below:

The selection for entry to initial teacher education programmes should be made more rigorous, drawing on existing best practice and using a wider set of selection criteria. The possible establishment of a national assessment centre should be explored. The role of future employers should be significantly strengthened within this revised process (p.27).

Candidates for teaching should undertake diagnostic assessments of their competence in both literacy and numeracy. The threshold established for entry should allow for weaknesses to be addressed by the student during the course. A more demanding level should be set as a prerequisite for competence to teach (p.27).

In discussion with the Review Team, students and recently qualified teachers described what, in their view, were time-intensive and often repetitive tasks required as part of placement assessment procedures. In some cases, they indicated that such assessment requirements drove their priorities and reduced the time in which they could collaborate with peers and other teachers or engage in improvement through self-evaluation (p.45).

For the future, it will be important to develop assessment approaches which lead to improved student teacher learning. Assessment should address those attributes of a good teacher which are displayed across the length of a placement. Experienced teachers already formally assess new teachers within the induction scheme and could take prime responsibility for assessing students on placement. Appropriate guidance on and moderation of standards, quality assurance and appeals processes need to be built in to ensure transparency, equality and fairness for all (p.45).

Joint appointments between local authorities and universities can play a key role in the moderation of standards across schools. Such posts could also help to bring research and

development work closer to the point of impact in schools. When creating such posts, there is scope to build on the role of 'student placement coordinator' which was funded within each local authority as a result of the 2005 review. Rather than focusing on administrative functions relating to managing placements, the future role could be about quality improvement of initial teacher education and partnership working across career-long teacher education (p.45).

The implications we discern from this Scottish Report relate to the importance of balancing summative assessment tasks which could be unreasonably time-consuming during practicum, with the formative opportunities to collaborate with teachers and peers in developing proficiencies and self-evaluation through reflection and rich conversations about teaching episodes.

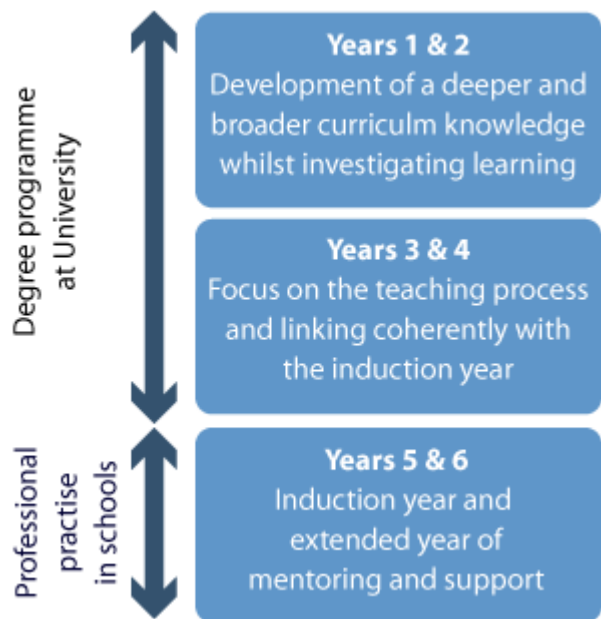
Another implication concerns the actual conduct of summative assessment which needs to be transparent and have in place processes that ensure fairness in how students are assessed.

Finally, we note the suggestion in the Report of a 'student placement coordinator' in each school whose role would be to focus on the quality improvement of initial teacher education and career-long teacher learning. This proposal is currently being implemented in a number of places in Australia leading to a strengthening of the role of teachers as leaders in orchestrating practicum experiences for preservice teachers. We endorse this development as likely to enhance the theory-practice nexus and improve the overall quality of teacher education programs.

6.1.4 The University of Aberdeen - Scottish Teachers for a New Era (STNE)

The Carnegie Corporation's Teachers for a New Era (TNE) initiative (on which Scottish Teachers for a New Era was modelled) was launched in 2001 and explicitly sought to raise student attainment by improving teacher quality. The distinctive contribution of TNE lies in its commitment to formal evidence that a teacher education program is effective in producing teachers who can improve student learning in specific ways. At the University of Aberdeen the main innovation is the development of a six year program as illustrated below. For further information see:

http://www.abdn.ac.uk/stne/documents/STNE_informationbooklet_may06.pdf



The key relevant implication of this initiative for the present review is the extension of the preservice program to include the first two years of induction where there is mentoring and support.

Of relevance here is research by Levine (2006) and Scannell (2007) that suggests longer programs (four- and five-year university-based teacher education programs) produce more highly qualified candidates, who have a stronger commitment to the profession, are more employable and have a higher impact on student learning. Longer programs are also associated with lower attrition rates during the early years of employment (Ure, Gough & Newton, 2010).

It is also pertinent that the Teachers for a New Era (TNE) programs were based on a clinical practice model that combines rigorous academic study of teaching with a lengthy clinical placement in a school where preservice teachers and new graduates are supported by highly skilled teachers who use an evidence-based teaching pedagogy. In the STNE model at Aberdeen clinical placement and induction are combined over two years beyond the four-year degree thereby enabling rigor and the development of theory-informed professional practice. It is relevant to note also that this program has significant financial support from the Carnegie Foundation.

6.1.5 England

In 2008 the United Kingdom Parliament's Children, Schools and Families Committee reported on their inquiry into Initial Teacher Training (ITT) and Continuing Professional Development (CPD). The Inquiry examined preservice teacher education programs, and its scope included:

- the extent to which the current ITT system encourages innovation and diversity in approaches to ITT;
- the role of higher education institutions in relation to ITT and the extent to which they make a distinctive contribution to provision;

- whether the current nature of partnerships working between schools and higher education institutions in the delivery of ITT is sustainable;
- the adequacy of development opportunities for those involved in the delivery of ITT, including those who are based in higher education institutions, schools and other settings; and
- the role of educational research in informing ITT provision.

As Eckersley et al. (September 2011) note the review advocated a doubling of school-centred training to constitute around one third of all teacher education places in the UK, arguing that the model had been demonstrated to be effective in supporting schools, in attracting quality entrants to the profession and in certain contexts in providing optimal learning opportunities.

It was noted, however, that school-centred initial teacher training had failed to prepare teachers to manage theoretical and critical concepts needed for professional practice (Eckersley et al., 2011). It was highlighted that “some teachers trained via new ‘school-based’ routes ‘don’t know what they don’t know’, making for “a danger of a self-perpetuating cycle of teacher ignorance if training is cut off from the [higher education institution’s] expertise, training experience and research which is not available to schools” (United Kingdom Parliament, 2008 p.26). Similarly it was argued that “school-based pathways can diminish opportunities for trainees to develop as critically-reflective practitioners and to be exposed to a wider range of pedagogy and whole-school practices” (United Kingdom Parliament, 2008 p.26).

The implications of this brief overview of the English Report for assessment, we suggest, centre on the importance of maintaining a focus on integrating theory, knowledge and practice, and providing assessment tasks that require preservice teachers to draw upon these three types of resources in their planning, teaching and evaluation.

6.2 Asian Perspectives

Recently, Lim, Cock, Lock and Brook (2009) reviewed innovative practices in preservice teacher education programs mainly from an Asia perspective. In their review they highlighted the adoption of the authentic assessment framework (Darling-Hammond, 2010) across the region (Hong Kong; Singapore; Malaysia; Australia) and specific assessment formats such as case-studies, action research projects, and portfolio assessment.

6.2.1 Hong Kong

At the Hong Kong Institute of Education, for example, Lim et al. summarised a case study of portfolio based assessment. This summary highlights key issues for consideration:

In this case study, portfolios were used as a form of formative and summative assessment for the unit of study on “Classroom teaching skills”. The preservice teachers were required to collect and comment on how pieces of work reflected their achievement of particular competencies (Klenowski, 2000). The study sought to determine the effect of portfolios in developing teaching and reflective skills. This was a relatively new concept of assessment, particularly given the history of examination-based assessment in Hong Kong (Klenowski, 2000). The study found that the use of portfolios increased preservice teacher’s use of more innovative teaching strategies, such as active learning, group work, consistent feedback, videoing, and reflections, and supported preservice teachers in

taking greater responsibility for their own learning. In addition, the students' use of portfolios had an impact on the pedagogical practice of the teacher educators who implemented them, such as efforts to make expectations clear to the preservice teachers, which supported their development in a constructive way. This case study provides a positive example of how portfolios can be used as an assessment tool to improve the quality of preservice teacher education. However, there were challenges involved in the implementation of such an assessment tool, especially with the need for consistency in the grading of portfolios and clear assessment procedures (Lim et al., 2009, pp. 29-30).

A key point in the summary above is the emphasis on preservice teachers' *collecting and commenting on* how pieces of work reflected their achievement of particular competencies. It is the dialogues that occur around the portfolio that appear to be crucial and this has effects both on the way the preservice teachers plan and implement lessons and how the teacher educators provide guidance and clear expectations about what is required.

6.2.2 National Institute of Education, Singapore

In March 2010 The National Institute of Education, Singapore published the report, *TE 21: A teacher education model for the 21st century*. This was a comprehensive review of the existing programs of teacher education in Singapore as well as a thorough redesign and plan for changes and improved practices across all aspects of the programs. In focussing on assessment of preservice teachers and their knowledge and competencies for teaching NIE proposed the introduction of an e-portfolio assessment requirement that would also include new tasks such as "professional learning inquiry sessions", and "focussed conversations" between preservice teachers, their mentor teachers and peers on specific aspects of teaching practice.

Professional Learning Inquiry Sessions (PLIS) were proposed as part of an assessment strategy to deepen the nexus between theory and practice. An associated goal was to strengthen the role of teacher-mentors at the school site. The PLIS initiative is part of a broader assessment strategy associated with the introduction of *e-portfolios* which is described as a "move in a new direction and approach to the assessment and validation of graduates' achievement of the GTCs (Graduand Teacher Competencies), and is aimed at developing the reflective teacher" (NIE, March 2010, p.25).

NIE distinguished between a portfolio which is a collection of artefacts and *portfolio assessment*, where the focus is on the quality of a candidate's response to a set of criteria linked to a set of artefacts that can validate the claims that are made by the candidate. The NIE report also suggested that portfolio assessment enables multiple perspectives to be considered in judging the quality of responses and artefacts (perspectives from self, peers and mentors) and that such dialogue and conversations about the portfolio facilitates professional community building.

The achievement of the joint goals for better assessment and building the nexus between theory and practice, NIE suggested in their report, requires careful consideration of how the professional portfolios are compiled over time and the processes through which they are assessed. NIE is exploring the use of portfolio as a means to bring together teaching, learning and assessment in meaningful ways. Portfolio assessment is essentially targeted at developing the reflective teacher who is part of a professional learning community. Thus, the NIE report suggests that the portfolio "will focus on answering selected questions of practice and it should provide evidence of the candidates' abilities to appraise, transform, create and apply knowledge, conduct systematic and rigorous practice-related inquiries, as well as provide leadership in strengthening and initiating communities of practice. The

professional portfolio will also include a critical reflection of the candidate’s professional learning through the programme accompanied by individual pieces of work he/she has produced in one or more modalities” (p.98).

A specific task adopted by NIE staff to implement this approach to assessment is termed the “*Focussed Conversation*”. These focussed conversations provide a set of four structured and semi-structured formats for the preservice teacher to report on and receive feedback about key aspects of teaching. Table 6.1 provides an overview of the tasks. As can be seen from the Table, the student is expected to draw upon their portfolio in order to initiate the conversations, and these conversations contribute overall to the formal and summative assessment of the candidates.

Table 6.1. Focussed conversations designed by NIE to assess preservice teachers

Session	Week	Focus
1 Focussed Conversation	1	Portfolio Sharing – Student teacher’s learning in NIE Student teacher is to share what he/she has learnt from the courses at NIE that have influenced his/her conception of teaching and learning.
2 & 3 Focussed Conversation	3-4 5-6	Managing Teaching and Learning I & II Student teacher is encouraged to bring up topics on issues encountered in his/her lessons with pupils for discussion during the 2 focussed conversations.
4 Focussed Conversation	9-10	Portfolio Sharing – Student teacher’s learning in school With reference to the Graduand Teacher Competencies (GTC) , student teacher is to share how his/her practicum experience has helped to develop his/her teaching competencies.

For FC1 and FC4, student teachers will need to prepare a presentation supported by artefacts extracted from their [E-Portfolio](#). The presentation will be for about 15 minutes. For FC2 and FC3, student teachers are encouraged to discuss using the [Reflective Practice](#) framework. Student teachers need to fill in and file the [Record of Focused Conversations form](#) in their practicum file.

Consistent with practices and emphases in other countries in Asia-Pacific region, the NIE in Singapore has foregrounded the mediating role of professional conversations between the preservice teacher, peers and mentors in the context of specific portfolio pieces of evidence, artefacts or observations.

6.3 USA Perspectives

6.3.1 School of Education, Alverno College, Milwaukee, USA

Alverno College is renowned in the higher education field for its integrated emphasis on (a) rigorous assessment, including developing students’ capacity to evaluate their own work, and (b) the development and assessment of eight key abilities (communication, analysis, problem solving, valuing in decision-making, social interaction, developing a global perspective, effective citizenship, and aesthetic engagement) which characterise every Alverno College graduate. The four-year teacher education program focuses on developing a further five ‘Education Advanced Abilities’ (2010):

Table 6.2 Ability-based Learning Program: Teacher Education. Milwaukee: Alverno College

Conceptualization	Integrating content knowledge with educational frameworks and a broadly-based understanding of the liberal arts in order to plan and implement instruction.
Diagnosis	Relating observed behaviour to relevant frameworks in order to determine and implement learning prescriptions.
Coordination	Managing resources effectively to support learning goals.
Communication	Using verbal, non-verbal, and media modes of communication to establish the environment of the classroom and to structure and reinforce learning.
Integrative interaction	Acting with professional valises as a situational decision-maker, adapting to the changing needs of the environment in order to develop students as learners

Five varied field placements of two hours per week precede and prepare students for 18 weeks of teaching practice (typically in two x nine week blocks) in the final year of the program.

Alverno College is part of the Teacher Performance Assessment Consortium (TPAC) sponsored by the American Association of Colleges of Teacher Education (AACTE) and Stanford University. As the AACTE states:

The American Association of Colleges of Teacher Education (AACTE) and Stanford University have formed a partnership to develop the Teacher Performance Assessment (TPA), a 21-state initiative involving over 100 teacher preparation programs. The Teacher Performance Assessment will create a body of evidence of teaching competence, providing a vehicle for systematically examining the assessment data to improve teacher preparation programs, provide professional development to practicing teachers and inform decisions about tenure of individual teachers.

<http://aacte.org/index.php?/Programs/Teacher-Performance-Assessment-Consortium-TPAC/teacher-performance-assessment-consortium.html>

As part of the TPAC, Alverno College's assessment of students towards the end of their teacher preparation program is based on the 'Teaching Event' (documented under the PACT heading in this report) whereby students include in their portfolio video clips of their teaching, along with lesson plans, assessed student work, and reflections on their teaching and their students' learning.

Charlotte Danielson's framework for teaching is used to structure the TPAC assessment within the Alverno student portfolio as well as observations done by supervising faculty during students' field placements prior to student teaching. Each of the framework's four domains – Planning and Preparation; The Classroom Environment; Instruction; and Professional Responsibilities – are aligned with both the Alverno College 'Education Advanced Abilities' and the Wisconsin Teacher Standards.

The assessment process

In each of the two nine-week teaching practice blocks, students assume increasing responsibility and have full instructional responsibility for four weeks of each block. The assessment conducted over the 18 weeks of teaching practice involves:

- > The TPAC 'teaching event' in the first nine-week block and a parallel individual child study in the second nine-week block.
- > Documentation of the events (plans, reflections, commentaries on the video recorded teaching and on pupils' work). Each event requires 30 - 45 pages of writing. The documentation of the assessment of pupils' learning is crucial – students must be able to demonstrate that their pupils are learning.
- > The documentation and videos are included in the students' portfolio (called at Alverno a 'Digital Diagnostic Portfolio'). The portfolio allows students' work to be viewed according to either the Education Advanced Abilities or the Wisconsin Teacher Standards, since all of the students' performances are aligned with the 10 Wisconsin Teacher Standards. The portfolio includes the students' work, their self-assessments, the College supervisors' assessments, and the cooperating teachers' assessments. The portfolio allows all of the students' work to be tracked over their four-year course.
- > The College supervisor's final assessment at the end of the block placement includes rating the student on each of the Danielson domains using the categories of 'distinctive', 'proficient', 'emerging' and 'inadequate' as well as a summative statement about the candidate's readiness for licensure.

The role of standards

- > As noted above, assessment is explicitly directed to meeting the Wisconsin Teacher Standards at the same time as meeting the Alverno College 'Education Advanced Abilities'. Given the role of TPAC in assuring the teacher standards in the various states, this close alignment is an essential feature of the Alverno assessment of teaching practice.
- > Each Alverno staff member who supervises teaching practice is a licensed teacher.
- > Some standards-related assessment occurs prior to field experience. For example, in an 'advancement to student teaching' portfolio assessment, students develop a web-based portfolio of materials aligned to the Education Advanced Abilities and the Wisconsin Teacher Standards. This is assessed by an academic staff member and a practising teacher who then interview each student and provide advice regarding future field experiences and other developmental activities.

The role of evidence

- > The TPAC assessment process is totally evidence based, with each task specifying a range of authentic items to be submitted. All evidence is accessible through the student portfolio.

Moderation

The Stanford Centre for Assessment, Learning, and Equity (2011) has developed a rigorous scoring and moderation system for the teaching events outlined at

http://scale.stanford.edu/index.php?option=com_content&view=article&id=101:scoring-a-moderation-system&catid=43:assessment-system&Itemid=99

Comment

The TPAC assessment process used to assess teacher education students in their final semester is the same as the PACT process being used in California. It combines a high level of authentic assessment with a focus on state mandated professional standards. While it may be noted that Alverno College has had a long standing reputation for its focus on performance assessment of its graduating students' abilities – a focus well suited to TPAC – the TPAC process is being applied in many other colleges with more traditional assessment approaches.

(Informant: Desiree Pointer Mace, Associate Dean. Former school teacher and staff member of the Carnegie Foundation for the Improvement of Teaching under Lee Shulman).

6.3.2 Performance Assessment for Californian Teachers

There are three performance assessment instruments in California approved by the California Commission of Teacher Credentialing (see www.ctc.ca.gov) - (i) the California Teacher Performance Assessment (CalTPA); (ii) the Performance Assessment for California Teachers (PACT); and (iii) the Fresno Assessment of Student Teachers (FAST) which is specific to the Fresno campus of California State University (CSU). Since its development, PACT has been adopted widely by California's teacher education institutions, although this approach to assessment is still being evaluated and reviewed.

The screenshot shows the website for the Performance Assessment for California Teachers (PACT). The header is blue with the title 'Performance Assessment for California Teachers'. A green navigation menu on the left lists various sections like 'Home', 'What is PACT?', 'Joining PACT', 'Teaching Event Handbooks', 'Rubrics', 'PACT Members', 'Contact and Staff Info', 'FAQ', 'PACT Events and Deadlines', 'Publications and Presentations', 'Supporting Documents for Candidates', 'Scoring Training and Scoring', 'Implementation Handbook', 'Implementation Conference 2010', and 'Embedded Signature Assessments (ESAs)'. The main content area has a white background with a blue header. It starts with 'What is PACT?' followed by a paragraph explaining that PACT is a consortium of 30 universities, 1 district internship program, and 1 charter school network. Below this is a diagram titled 'The Teacher Performance Assessment System' which shows a flow from 'Embedded Signature Assessments in Local Programs (Examples)' to 'The Teaching Event' and 'The Capstone Teaching Case'. The diagram includes boxes for 'Data Use Studies', 'Analysis of Student Learning', 'Curriculum Teaching Rubrics', 'Teaching Case Development', 'Planning', 'Assessment', 'Reflecting', and 'Academic Support'. Below the diagram is a list of 'Supporting Documents for Candidates' including 'A Brief Overview of PACT' and 'Testimonials About PACT from Students and Faculty'. At the bottom, there is an 'Introduction to the PACT Assessment System' section with links to 'Teaching Event Handbooks', 'Teaching Event Rubrics', and 'PACT Technical Report March 2007'.

Performance Assessment for California Teachers. See <http://www.pacttpa.org/>

This section below is summarised from Pecheone and Chung (2006). Since 2002, PACT has been through eight years of development and implemented in 32 teacher education programs in California,

including both traditional preservice teacher education programs and alternative certification programs offered by school districts and a charter management organization. The assessment allows for both formative and summative assessment of preservice teacher performance. Following specific principles, PACT was designed to ensure an assessment focus on student learning through intentional teaching practices and the systematic collection of teaching artefacts. The design principles require that a teacher performance assessment should:

- > Maintain the complexity of teaching
- > Focus on content/pedagogy within disciplines embedded in the teacher preparation curriculum
- > Examine teaching practice in relationship to student learning
- > Provide analytic feedback and support
- > Be both adaptive and generalisable.

Programs have used the data generated by PACT to make programmatic improvements that have resulted in enhanced preparation and preservice teacher performance. PACT has been approved as an official performance assessment for licensing by the California Commission on Teacher Credentialing based on extensive reliability and validity studies that met rigorous standards. Extensive research continues to ensure reliability and validity measurements, including an in-progress value-added study of preservice teaching in relation to student learning in California (Mayer, Pecheone, & Merino, 2011, in press).

The PACT project focuses on two assessment types: (a) formative development of prospective teachers through embedded signature assessments that occur throughout teacher preparation; and (b) a summative assessment of teaching knowledge and skills during student teaching (the TE).

Embedded signature assessments include various types of authentic assessment such as case studies of individual students, lesson or unit plans, analyses of student work, and observations and analyses of student teaching. The purpose of the embedded signature assessments is to provide formative feedback to the prospective teacher and teacher educators as well as to provide multiple sources of data to inform decisions regarding initial registration. Through a website, these ESA assessments are being shared across the PACT institutions to both build understandings and share new approaches to teacher assessment.

The TEs are subject-specific assessments that are integrated across the four PIAR tasks (planning, instruction, assessment and reflection). To complete the TE, candidates must plan and teach a learning segment (i.e., an instructional unit or part of a unit), videotape and analyse their instruction, collect student work and analyse student learning, and reflect on their practice.

PACT was motivated by a desire to develop an integrated, authentic, and subject specific assessment that is consistent with the core values of member institutions in California. The PACT assessments or teaching events (TEs) use multiple sources of data (teacher plans, teacher artefacts, students' work samples, video clips of teaching, and personal reflections and commentaries) that are organized on four categories of teaching: planning, instruction, assessment, and reflection (PIAR).

The PACT assessments built on efforts in the USA by the National Board for Professional Teaching Standards (NBPTS) and the Interstate New Teacher Assessment and Support Consortium (InTASC), which developed performance assessments for use with expert and beginning teachers. Like these

earlier assessments, the focus of the PACT assessments is on candidates' application of subject-specific pedagogical knowledge that research finds to be associated with successful teaching and student learning.

What distinguishes the PACT assessments from the National Board for Professional Teaching Standards assessments is that the TE tasks are more integrated (capturing a unified learning segment). They are designed to measure teacher performance at the preservice level, and are not assessed centrally by independent trained assessors. Moreover, the PACT assessment system also uses a multiple measures approach to assessing teacher competence through the use of course-embedded signature assessments (ESA).

At a practical level student teachers (all of whom are enrolled in 1-year postgraduate programs or in 2-year internship programs) document three to five hours of their instruction in a subject specific unit (usually a week of instruction) near the end of their final student teaching placements. By probing candidate thinking about student learning through the critical analysis of student work samples, the assessments provide important opportunities for mentoring and self-reflection.

Reservations about PACT

In 2009 Irina Okhremtchouk and colleagues published a study in which they reported on the perspectives and concerns of preservice teachers regarding the conduct of the PACT assessments. Okhremtchouk and her co-authors were all participants in PACT as graduate student fellows who worked with the preservice teachers and their primary teacher supervisors as the final portfolio was planned, prepared and assembled.

They report that the

“Overall tenor of the preservice teachers’ conversations around PACT was negative, filled with complaints about excessive writing demands, unavailability of video cameras, and the stress of assembling the portfolio at the same time as student teaching”.

Nonetheless Okhremtchouk and her colleagues believed that these preservice teachers were also benefitting from the experience. So they developed a self-reported, open-ended survey as a means of hearing from as many preservice teachers as possible. They found that preservice teachers positively evaluated the process of doing PACT in terms of its beneficial effect on their development as teachers, both in the short and the long term. However, there were on-going concerns from the preservice teachers about the redundancy of some aspects of the PACT tasks, the importance of timing of the TE episode in relation to the whole practicum experience, and the differential support that might be offered by their supervisors in preparing for the TE. Similar concerns about PACT had been identified by other researchers (see Pecheone & Chung, 2006). Complications arose also for those preservice teachers in the Multiple Subject credential cohort because they needed to complete TEs across curriculum areas and their supervisors were not always well prepared to assist. In addition, the local factor of specific placements in different schools impacted significantly on the ease with which preservice teachers could prepare for the PACT assessment performance. Okhremtchouk et al. (2009) concluded that:

“It is essential for all resident teachers to have an overall understanding of what PACT or other performance assessments entail in order to give needed flexibility (and in some cases feedback) to their preservice teachers in their preparation of the assessment portfolios. Moreover, to a degree, the school administration must also be aware of certain

teaching modalities that preservice teachers are asked to implement as part of their teaching unit of the assessment portfolios, so there is no friction between preservice teachers, their resident teachers, the curriculum, and the school administration.”

6.3.3 Boston College’s Teachers for a New Era

The Teachers for a New Era (TNE) project, which began at Boston College (BC) in 2003, is an initiative funded primarily by the Carnegie Corporation of New York to improve the preparation of teachers. According to the original prospectus, the theory of action behind the initiative was that “an inclusive academic culture of research, rigorous standards, and respect for evidence provides for a self-correcting and continually improving teacher education program” and serves as a model that can “readily be disseminated nationally and adopted generally by teacher education programs anywhere” (Carnegie Corporation, 2001). Instead of trying to shift the site of teacher preparation away from the university then, as many reforms featuring alternate certification pathways do, TNE’s position was that a university-based, but radically improved, kind of teacher preparation should be situated within the academy, given its unparalleled knowledge resources, research expertise, and potential for interdisciplinary collaborations between education and arts and sciences faculty (Fallon, 2006).

Shortly after its selection as a Teachers for a New Era (TNE) site, Boston College formed a multidisciplinary Evidence Team (ET) responsible for developing instruments and conducting research to assess the impact of the program and foster evidence-gathering activities, with emphasis on evidence about teacher candidates’ and pupils’ learning.

At Boston College (BC), Cochran-Smith and her colleagues worked to construct “teaching for social justice” as a legitimate and measurable outcome of teacher education. The research team has theorized teacher education policy, practice, and curriculum in terms of the goal of social justice (Enterline, Cochran-Smith, Ludlow, & Mitescu, 2008). They summarise their approach as:

We conceptualize teaching for social justice as teaching that is guided by theories of action or conceptual frameworks with particular knowledge, concepts, goals, values, principles of practice, and connections to larger agendas. When teacher preparation is deliberately designed to provide the contexts to support teacher candidates’ development of these theories of action, we refer to this as teacher education for social justice. We refer to the process of learning to teach in ways that are in keeping with these theories of action - a process we see as continuous over the professional lifespan rather than one that is completed during the preservice period—as learning to teach for social justice.” (Cochran-Smith, Mitescu, Shakman, Boston College TNE Evidence Team, 2009, p. 4).

Specifically with regard to teaching they suggest that:

From the perspective of social justice, teaching is not simply practical - that is, teaching is not simply about how, when and where teachers do things. Rather, teaching is understood in a broad and complex way as an activity that draws on and integrates teachers’ essential knowledge, interpretive frameworks, teaching methods and skills, and knowing how to learn within inquiry communities. This means that teaching for social justice depends on the knowledge teachers have about subject matter, curriculum, and how people learn as well as the pedagogical strategies and methods they use. But it also involves teachers’ interpretive frameworks - what they believe, how they think about their work and its larger connections, what they consider to be reasonable expectations for various learners, what they regard as the purposes of education, and how they

collaborate with others to continue to learn from and about teaching over the course of the professional lifespan. This complex notion of teaching also includes how teachers pose questions, make decisions, and form relationships with students as well as with colleagues, families, communities, and social groups (Cochran-Smith, Mitescu, Shakman, Boston College TNE Evidence Team, 2009, p.6).

They also developed a set of instruments to measure the degree to which the BC teacher education program achieves this outcome. Drawing on Rasch item response theory, they developed a “Learning to Teach for Social Justice-Beliefs” (LTSJ-B) scale, which they embedded into a series of entry, exit, 1-year-out, 2-year-out, and 3-year-out surveys. Using the results of these surveys administered to multiple cohorts of teacher candidates and graduates, they were able to measure changes in beliefs related to teaching for social justice over time, showing significant positive gains from entry to exit that were maintained after one year of teaching (Enterline, Cochran-Smith, Ludlow, & Mitescu, 2008; Cochran-Smith, Mitescu, Shakman, Boston College TNE Evidence Team, 2009). The items in the scale are reproduced below.

Table 6.3. The “Learning to Teach for Social Justice-Beliefs” Scale.

Respond to the following statements regarding your beliefs about teaching. ^{ab}

- 1 An important part of learning to be a teacher is examining one’s own attitudes and beliefs about race, class, gender, disabilities, and sexual orientation (“examine one’s own beliefs”). ^c
- 2 Issues related to racism and inequity should be openly discussed in the classroom (“discuss inequity openly”).
- 3R For the most part, covering multicultural topics is only relevant to certain subject areas, such as social studies and literature (“multicultural topics are limited”).
- 4 Good teaching incorporates diverse cultures and experiences into classroom lessons and discussions (“good teaching incorporates diversity”).
- 5R The most important goal in working with immigrant children and English language learners is that they assimilate into American society (“assimilate ELL into society”).
- 6R It’s reasonable for teachers to have lower classroom expectations for students who don’t speak English as their first language.
- 7 Part of the responsibilities of the teacher is to challenge school arrangements that maintain societal inequities (“challenge inequities”).
- 8 Teachers should teach students to think critically about government positions and actions (“teach to critically examine government”).
- 9R Economically disadvantaged students have more to gain in schools because they bring less into the classroom (“economically disadvantaged bring less”).
- 10R Although teachers have to appreciate diversity, it’s not their job to change society (“teacher’s job is not to change society”).
- 11R Whether students succeed in school depends primarily on how hard they work (“success primarily due to student effort”).

12R Realistically, the job of a teacher is to prepare students for the lives they are likely to lead (“prepare students for likely lives”).

^a Likert response categories: Strongly Disagree = 1, Disagree = 2, Uncertain = 3, Agree = 4, Strongly Agree = 5.

^b R: denotes the categories where reverse scored.

^c These abbreviated phrases are used throughout the article.

7.0 National Examples of Authentic Assessment

7.1 Deakin University

This whole section below is summarised and extracted from a report (Dixon, Mayer, Gallant & Allard, June 2011) to the Victorian Department of Education and Early Childhood Education and the Victorian Institute of Teaching.

Authentic assessment has become more relevant with the recent introduction of the new national standards and processes of accreditation (Australian Institute of Teaching and School Leadership, 2011) and the requirement that institutions offering initial teacher education programs provide evidence that their graduates can demonstrate the required graduate standards. The Deakin ATA (Authentic Teacher Assessment) was developed as an authentic, workplace-based assessment of professional practice as defined by the Victorian Institute of Teaching (VIT) *Standards of Professional Practice for Graduating Teachers*. It was implemented in 2010 as a capstone summative assessment in the new Master of Teaching course at Deakin University.

The Deakin ATA comprises tasks or activities designed for preservice teachers to demonstrate their understanding of, proficiency with, and critical reflection on key aspects of teachers' work:

- > Understanding contexts for students' learning.
- > Planning for teaching and assessment.
- > Teaching and supporting students' learning.
- > Assessing student learning and using that assessment to inform future planning and teaching.
- > Reflecting on and evaluating professional practice.

Drawing on the structure and content of the PACT assessments (see Section 6) or *Teaching Events* (TEs), the Deakin ATA uses multiple sources of data (teacher plans, teacher artefacts, student work samples, video clips of teaching, and personal reflections and commentaries) which are organized in four categories of teaching - planning, teaching, assessment, and reflection - to better understand graduates' readiness to teach as measured by the Victorian Institute of Teaching (VIT) *Standards of Professional Practice for Graduating Teachers*.

In the Deakin ATA, preservice teachers plan and teach a sequence of five to eight lessons during their teaching practicum. They are also required to keep a journal to record their reflections about their teaching practice and their own learning. Through these activities they are required to demonstrate their ability to:

- > Teach proficiently and demonstrate the *VIT Standards of Professional Practice for Graduating Teachers*.
- > Identify the important features of the classroom context that influence their planning, teaching and assessment.
- > Draw on students' prior knowledge and learning when planning and teaching lessons.

- > Work with students to build their knowledge and skills in a particular area.
- > Engage students in meaningful activities and monitor their understanding.
- > Critically reflect on their professional practice and its impact on students' learning.
- > Assess student learning and determine patterns in whole class learning as well as individual learning needs.
- > Use student assessment to inform their professional practice.

Evaluation of the ATA

An evaluation of the assessment approach was conducted which involved the first group of 30 preservice teachers enrolled in the Master of Teaching completing the Deakin ATA during Trimester 3, 2010 (November, 2010 to February, 2011). The participants in the research included classroom teachers who supervised the preservice teachers during the practicum as well as the Deakin University academics involved in the implementation of the Deakin ATA.

a. Reflecting the work of teachers

Preservice teachers, practicum supervisors and Deakin academics who participated in this research all considered the Deakin ATA to be an authentic assessment of teacher readiness because it is based on evidence of preservice teachers' actual experience of doing the complex work of teachers (Dixon et al., 2011, p.15).

The Deakin ATA requires preservice teachers to show evidence of their actual teaching practice and to demonstrate that they are able to reflect on and learn from their practice. From the preservice teachers' perspectives, this makes it a more effective measure of teacher readiness than an essay or similar written assessment, and at the same time it provides preservice teachers with an opportunity to learn about themselves as teachers (Dixon et al., 2011, p.16).

Despite some concern expressed by several participating preservice teachers that perhaps a skilled writer could complete the Deakin ATA successfully even if they were not ready to teach, the Deakin academic who assessed the ATA believes that this would not be possible because of the individualised and subjective process of reflecting on the evidence required to complete the ATA (Dixon et al., 2011, p.16).

b. Demonstrating VIT Standards of Professional Practice for Graduating Teachers

The Deakin ATA was designed with reference to the Victorian Institute of Teaching (VIT) *Standards of Professional Practice for Graduating Teachers* (VIT Standards). Preservice teachers and practicum supervisors agreed that overall the Deakin ATA was well designed so that preservice teachers could demonstrate the VIT Standards: '*When I looked at the standards and looked at what we were being asked to do [in the ATA], you could see the link*' (preservice teacher) (Dixon et al., 2011, p.17).

Some preservice teachers reported that completing the ATA helped them better understand the range of skills and understandings that were encompassed by the VIT Standards. They found that when they read the VIT Standards prior to completing the ATA, they seemed to be too broad and complex to be able to be demonstrated in reality. After completing the ATA, they began to understand what the Standards meant in practice, and to comprehend that teachers' work does involve the range of professional skills and understandings listed ... *after I started writing the ATA I can sort of... picture ... what the actual words [in the VIT Standards] mean ...* (preservice teacher) (Dixon et al., 2011, p.17).

c. Concurrent Validity

Concurrent validity refers to the degree to which students' scores on the Deakin ATA correlate with other measures of beginning teacher readiness measured at the same time. The small sample did contain two preservice teachers whose assessment as failure in the ATA stood in stark contrast to the excellent practicum evaluation reports from their practicum supervisors. One of these preservice teachers reported being unable to write in a concise manner in order to meet the word limit of the assignment and another seemed to struggle with reflective writing. These were common issues across the whole cohort but were reported as very significant for these two. This requires further investigation and recommendations for addressing further the issue of word length and further instruction in reflective practices (Dixon et al., 2011, p.18).

d. Fairness

All preservice teachers in this research reported that they were able to use activities appropriate for the subject and year level they were teaching when completing the ATA. All participants considered the ATA to be flexible enough to be adaptable to all teaching circumstances. The Deakin assessor who marked the ATA in 2010-2011 found that all primary and secondary preservice teachers were able to complete all the requirements of the ATA suggesting that the activities were relevant to all the settings in which the preservice teachers were completing their practicum. Moreover, there was no notable discrepancy in the overall quality of the work submitted between primary and secondary candidates (Dixon et al., 2011, p.20).

e. Flexibility

The ATA may need to incorporate alternative possibilities for preservice teachers in practicum circumstances where they are unable to complete a sequence of five to eight lessons, such as teaching two shorter sequences of three to four lessons each. However, the original intent of the five to eight lessons was to reflect the real work of teachers as they plan and teach towards a concept or skill over time, rather than simply concentrating on a short term objective achievable within the time of one or two lessons with seemingly little connection to what comes after. The longer time frame of a sequence of lessons also more accurately reflects the professional judgment in which teachers engage as they scaffold student learning over time (Dixon et al., 2011, p.22).

f. Written ATA and word length

Preservice teacher participants in this research highlighted two connected issues regarding the writing of the ATA. The first was a lack of experience and understanding about reflective writing, and the second was a belief that the ATA is too broad and complex a task to be addressed within the available word limit. During interviews with preservice teachers, the issue that stood out as having caused participants the greatest difficulty and anxiety was completing the ATA requirements within a word limit. The majority of preservice teachers believed that to be able to demonstrate their abilities and understandings they needed to write significantly more than was allowed and they felt that having to edit their writing down to meet the word limit disadvantaged them (Dixon et al., 2011, p.23).

g. Structure and timing of the practicum

Preservice teachers believed that a four-week block of professional experience was the minimum length of time needed to complete the requirements of the ATA. However, even with a four-week block, one preservice teacher did not have the opportunity to teach a sequence of more than three lessons due to timetable constraints. Preservice teachers agreed that it would have been very difficult to complete the ATA if they were only attending their practicum schools two days a week as they had in earlier practicums (Dixon et al., 2011, p.32).

Practicum supervisors also believed it was important for preservice teachers to have an extended, intensive period of practicum in order to complete the ATA. They stressed the importance of having enough time to build relationships with students that supported teaching and learning, and to experience the work of teachers (Dixon et al., 2011, p.32).

h. Knowledge of the ATA by supervising teachers

Practicum supervisors interviewed for this research varied in their knowledge of the aims and requirements of the Deakin ATA. The ATA was described in the Practicum Handbook supplied to schools, but this did not appear to have been passed on to the practicum supervisor in every case. In other cases, practicum supervisors did not read the whole handbook because of time pressures. Often, the main way in which practicum supervisors were informed about the ATA was through conversations with preservice teachers.

One preservice teacher participant in this research was not able to do her own planning but instead had to use the lessons already planned by the practicum supervisor. Another was unable to complete the final assessment planned for preservice teachers at the end of the unit taught because the practicum supervisor made different plans for the day at the last minute.

These are critical issues impacting the successful implementation of the ATA and highlight the importance of both the practicum supervisors and the preservice teachers having a clear understanding of the requirements of the ATA from the beginning of practicum period (Dixon et al., 2011, p.33).

i. Impact of the ATA on the other courses in the program

Deakin academics involved in developing the Master of Teaching units report that backward mapping from the Deakin ATA and its requirements helped them clarify what needed to be covered in the units and informed how they could scaffold preservice teachers' professional learning.

... the ATA, I think has forced us as teacher educators to be much more explicit about... stepping them through, scaffolding them through. This is how you look at the context, this is how you learn about your students, this is ... [what] you need to be aware of. And then we did try to structure that in the course (Deakin academic).

The ATA provides a snapshot – albeit over a period of time – of the skills and understandings of the preservice teachers. As an evidence-based assessment grounded in actual teaching practice in the workplace, it aims to assess the readiness of preservice teachers to do the actual work of teachers. (Dixon et al., 2011, p.38).

j. Assessment literacy of students

In the Assessment of Student Learning activity, preservice teachers were generally able to successfully design and implement assessments of student work, but did poorly at analysing the assessment data and using it to inform future teaching. Understanding of assessment and planning varied across method areas, but a more detailed analysis would be needed to determine which method areas needed improvement in the way they scaffolded learning in these areas. The Deakin ATA assessor reported that as a whole the 30 preservice teachers who completed the ATA in Trimester three did less well on the assessment component than any other activity of the ATA. This assessor found that while all participating preservice teachers were able to provide examples of student assessments, many of them were unclear about how to analyse this data and how to use it to inform their teaching. She suggested that more explicit instruction was necessary to support preservice teachers' learning in this area.

7.2 Melbourne University

At the centre of the Melbourne Model is the notion of the teacher as a clinical practitioner and one key assessment task that reflects this approach is the clinical practice examination (CPE). In this assessment task students are required to report on their experience of interventionist practice in the context of their daily planning and teaching, integrating the knowledge they have gained from different courses within the program that focus on context, classroom learning processes and the key mediating function of language in learning. These courses include the following: “Social and Professional Contexts”; “Learners, Teachers and Pedagogy”; and “Language and Teaching.” The preservice teachers are required to plan, implement, reflect upon and evaluate an intervention for one student or group of students in a class that they teach.

It is important to note that the CPE task is constantly under review, and that student and academic feedback about the task is used to refine it for each following cohort. An adapted version of the SOLO taxonomy (Biggs & Collis, 1982) has been employed for designing the assessment criteria and making differential judgements about the level of student performance. The CPE has become a central part of the first semester program, and it is requiring academic staff coordination in its own right.

Comments below from Dr Larissa McLean Davies (12/8/2011), who is Program Director, clarify some specific issues regarding the CPE.

In the first year of the task, full-time, continuing staff gave additional time to the assessment, and the MGSE (Melbourne Graduate School of Education) also supported the employment of contract staff for additional time. In this second year, we have drawn on our Clinical Specialists (university-based staff) and Teaching Fellows (school-based staff) to be part of the assessment of this examination. While the CSs and TFs were already very familiar with the requirements of the examination, as they supported our Teacher Candidates (TCs) as they prepared and undertook their intervention during their block round in the previous year, we provided additional training for these staff prior to the 2011 examination.

We are continuing to review and refine the constitution of the panel, and would ultimately like learning area (method) lecturers to become involved. The Master of Teaching is an intensive course (even when it is taken in what is currently known as ‘reduced’ mode), and so we are interested in streamlining assessment across academic subjects and in making the assessment authentic and relevant.

It is worth noting that while the assessment of the CPE is labour intensive, everyone who assesses this examination recognises the benefits for Teacher Candidates and for staff teaching in the program. We are genuinely inspired by the way that many of our Teacher Candidates are able to talk about their practice after one semester.

As I mentioned, the CPE is currently undertaken in first semester in the secondary program. In the second semester of our accelerated program, the core subjects are Assessment Learning and Teaching, and ICT. Both subjects draw on Teacher Candidates’ learning area content knowledge in their assessment tasks.

At the moment, the assessment which builds on the CPE most clearly in second semester takes place in the practicum subject which requires students to discuss their practice in an exhibition. This exhibition is assessed by Teaching Fellows and Clinical Specialists, but

other staff (including mentor teachers), attend the exhibition. This Practicum Exhibition is, for the TCs, a climax of the course, and builds on the skills developed in the CPE and the understanding of theory and pedagogy gained in the university-based subjects.

It is worth noting that following the introduction of the CPE in the secondary stream in 2010, the primary and early childhood programs have also developed CPEs – although the different structure of these programs mean that it is manifest in slightly different ways (in primary, for example, the CPE is located within the practicum subject and is undertaken at the end of each of the first three semesters, and requires Teacher Candidates to make links to the core subject undertaken in each semester).

There are clear benefits in terms of quality assurance and authenticity in adopting elements of this approach to assessing preservice teachers – which includes the clinical practice examination (CPE) and the summative practicum exhibition (PE).

The clinical practice examination is a situated case-study of an intervention with a learner in which the preservice teacher can demonstrate their integration of knowledge across a number of areas. It is followed by a professional conversation with a mentoring teacher and university staff member where understandings and implications can be further explored. The importance of this kind of professional conversation is becoming clearer from the evidence accumulated in this current report. It seems to have two benefits: it assures the teacher educators (school-based and university-based) that indeed the preservice teacher has a deep understanding of the case and a practical plan to intervene, and it provides a context for deepening the preservice teacher's understanding and enabling better self-evaluation. It is expensive, however, in staff time both for the mentoring teacher and the university-based teacher educator. While cost per se is not a good reason to reject "best practice" it does raise the issue of fully funding teacher education programs especially in terms of quality assessment practices.

The practicum exhibition (PE) that occurs in schools with regard to specific teaching episodes incorporates the key element of the professional conversation. It builds on the skills developed in the CPE and the understanding of theory and pedagogy gained in the university-based subjects. Again, this approach to assessment involves a professional conversation that provides opportunities for deeper reflection and building capacities for self-assessment. Finally, cost is an issue when key staff are designated to spend extended time in assessment and professional dialogues with each student.

7.3 Victoria University

The School of Education at Victoria University (VU) over the past two decades has developed a teacher education program based upon establishing close relationships with the local community in the western suburbs of Melbourne (for a recent overview see Eckersley et al., September, 2011).

Partnerships became the principle underlying course organisation and curriculum for preservice teacher education programs at Victoria University. Partnerships were developed between the university, schools, social welfare agencies and community action groups. The core of this reform agenda based on partnerships is a practice-theory pedagogy which is designed to enable local inquiry by preservice teachers, with mentoring by teachers and teacher educators to enhance the learning of school students in disadvantaged areas.

From a commitment to inquiry-based learning and partnerships teacher education programs at VU were explicitly grounded in the social and educational conditions of communities with significant social and cultural diversity and considerable socioeconomic disadvantage. In this pedagogy, important educational questions such as how schooling might be more socially just, emerged as

practical school- and classroom-based tasks for student teachers to address (see Carpenter, Cherednichenko, Hooley, Kruger, Mahon, Mulraney & Ryan, 2003).

A praxis inquiry protocol has been deployed by VU academic staff to encourage preservice teachers to investigate professional practice through an integrated process of practice described, explained, theorised and changed.

- Practice Described: Portrayals and expressions of professional practice of schools and teaching that over time accurately depict the main features of direct experience.
- Practice Explained: Initial explanations and clarifications of professional practice that emerge from the direct experience of professional practice of schools and teaching.
- Practice Theorised: Key principles and generalisations of professional practice of schools and teaching that arise from personal experience but which can be applied across similar contexts and locations for change and improvement of teaching and learning.
- Practice Changed: Planning and implementation of new approaches to teaching and learning within specific classroom conditions (Eckersley et al., September, 2011).

In the most recent version of this approach to teacher education, the VU team have introduced the concept of Philosophical Project Knowledge (PPK) that theorises teacher education as learning through social action and partnerships between communities, schools and universities (Arnold, Edwards, Hooley, Williams, 2011). The model is grounded in a philosophical commitment to social and educational equality with a commitment to *authentic teacher education as praxis*, collaboratively negotiated between student teachers, teachers and teacher educators across the school and university (Kruger and Cherednichenko, 2005).

Preservice teachers are placed in partnership schools for up to two days per week for classroom teaching, the design and implementation of applied curriculum projects (ACPs) and participation in teacher education subjects taught at the school. This provides for 'authentic,' 'genuine' and 'real' experience from which professional responsibility and agency emerge (Arnold, Edwards, Hooley, Williams, 2011).

The key assessment task is the Applied Curriculum Project (ACP) that is a year-long compulsory and negotiated project of curriculum development undertaken by preservice teachers at their school site. The intent of the ACP is to involve all participants more deeply in the curriculum and learning of the school and to establish more authentic relationships between preservice teachers, mentors and school students. The ACPs ideally complement and integrate teaching and research requirements of the school with the curriculum inquiry unit contents of the university program. If this occurs then it is the basis for a strong educational partnership. The benefits of rich applied curriculum projects include the enhancement of students' learning in schools, exploration of the connection between the practice and theory of teaching, learning, curriculum, assessment and social context through the negotiated development of an aspect of curriculum. Kruger and Cherednichenko (2005) suggest that this enables preservice teachers to contribute positively to curriculum initiatives and to work co-operatively with mentor teachers on curriculum development. The ACP provides the intellectual and practical space that enables preservice teachers to develop skills and understanding in curriculum development and evaluation.

8.0 Approaches to Preparing and Assessing Professionals

Different professions take different approaches to preparing and assessing the readiness of university graduates to practice. In some professions (for example, teaching, social work, occupational therapy, and physiotherapy), university programs produce graduates who are immediately able to apply for registration (provisional in some cases) with their relevant professional bodies, allowing them to practice independently immediately. In contrast, other professions (for example, engineering, law, and psychology) require university graduates to complete a period of supervised practice, or further practical training, before permission to practice independently is granted.

In this section, some brief examples of the processes used by this latter group of professions will be presented, before providing three more extensive case studies from social work, occupational therapy, and physiotherapy programs. The more extensive discussion in the three case studies is provided on the basis of their similarity with the teaching profession. In particular, the case studies will focus on the assessment processes that allow the university programs to ascertain that graduates are able to do what they need to be able to do to practice in the appropriate professional context.



8.1 Professions with additional training and assessment requirements beyond graduation

To practice as an engineer in Queensland, the *Professional Engineers Act 2002* (Queensland Parliamentary Counsel, 2009) outlines the requirements that must be satisfied by a candidate to become registered with the Board of Professional Engineers of Queensland (BPEQ). This registration process is designed to “protect the public by ensuring professional engineering services are provided by a registered professional engineer in a professional and competent way; maintain public confidence in the standard of services provided by registered professional engineers; and uphold the standards of practice of registered professional engineers” (BPEQ, 2011). The registration process requires applicants to not only satisfy the qualification and competency requirements, but to also complete five years of practice under direct supervision before full registration can be applied for.

To become a lawyer in Queensland, there are four basic steps that must be completed to meet the requirements set out by the Queensland Law Society (2011). First, candidates must complete a recognised Law degree. Second, graduates are required to complete an approved Practical Legal Training (PLT) course or supervised traineeship. PLT courses are designed to equip graduates with the practical knowledge for entry into legal practice and they provide training in areas such as ethics, legal writing and drafting, interview skills and other common practice-related skills. Alternatively, graduates may serve as a Supervised Trainee at a law firm over a minimum of 12 months. Supervised traineeships are a form of on-the-job training that provides the opportunity to gain practical knowledge in a practice environment while earning a wage. Third, on completion of steps one and

two, candidates can apply for admission to the Roll of Lawyers. Finally, in order to practice candidates must apply for, and receive, their Practising Certificate from the Queensland Law Society.

The Queensland Psychologists Registration Act (2001) regulates the practice of psychology in Queensland. It is illegal to use the title psychologist, or to represent yourself in any way that leads people to believe you are a psychologist, without being registered. After completing an approved four-year psychology degree (or three-year psychology degree with another Honours year) graduates may apply for provisional registration with the Queensland Psychologists Registration Board. To qualify for full registration graduates are required to either: a) complete two years of supervised practice or, b) complete an approved Psychology Higher Degree program.

These three overviews of entry pathways in the engineering, law, and psychology professions provide a contrast with the teaching profession. There is considerably less pressure on undergraduate university programs in engineering, law, and psychology to determine the readiness of graduates to practice, than in undergraduate teacher education programs. Engineering, law and psychology graduates are not considered ready to practice independently or autonomously until they have developed further knowledge and experience under supervision. Although new teachers also have to move through a provisional registration process with the Queensland College of Teachers, these teachers are still required to practice independently, and with less onerous supervision requirements. This places considerably more pressure on the assessment processes in teacher education programs to ensure that graduates are practice-ready. The next section will focus on other professions that have to contend with the same issue.

8.2 Professions that permit registration (and independent practice) on graduation

This section will provide an overview of assessment practices in three professional programs which were considered more similar to teacher education. The university programs in social work, physiotherapy and occupational therapy each prepare students for practice in complex professional fields, each is subject to professional practice standards, in each case a close relationship between the university and the practice field is critical to both parties, and in each case extensive steps have been taken to ensure that valid and reliable judgements can be made in relation to what students know and are able to do in the field of practice they are about to enter.

Case Study 1: Social Work

School: School of Social Work and Human Services, The University of Queensland (UQ).

Informants: Professor Jill Wilson; Mark Cleaver, Field Education Unit Manager; Dr Josephine Yellowlees, Field Education Coordinator.

The context of assessment

The principal means of assessing students' competence in the field is through two 500-hour field placements in semester five and semester eight (the final semester) of the four-year program. Students can be placed in a wide range of agencies with considerable variation in the type and range of social work tasks they engage in. Each student is allocated a primary field educator who is responsible for conducting their mid-placement and final assessments. Most field educators have completed three training seminars offered by the School. The School also offers a three-day advanced supervision

certificate program for field educators. The relationship between the student and field educator is seen as central to the placement. A 'field tutor' is assigned by the School to support and monitor each placement. Evaluation of the student's work is an ongoing process involving student, field educator, and the field tutor, culminating in a final report at the end of the placement. Others (such as clients and agency staff) involved in the placement context, may also have input into the evaluation process. The teaching and learning process on placement involves formal supervision, reflection, and evidence-based practice.

The assessment process

The placement is based on six modules, each with a set of goals, objectives/evaluation criteria, and broadly framed tasks and learning activities. At the beginning of the placement, the student develops a personalised/contextualised 'learning curriculum' based on the module framework and its application to their particular agency. This curriculum specifies the student's placement objectives, specific learning tasks, and how their learning will be assessed.

Evaluation reports are prepared at the mid- and end- point of the placement and include:

- > The learning curriculum completed at the start of the placement;
- > A 'Statement of Learning' completed by the student in which they reflect on their placement experience and summarise significant learning;
- > An evaluation form in which, in relation to each of the six modules, evidence of work completed is listed and the student's performance in relation to a number of criteria is recorded on a four-point scale: 'high level of performance'; 'satisfactory progress'; 'needs improvement'; and 'not yet had the opportunity'. The supervisor includes 'comments on achievements and issues related to this module.' Each module references relevant practice standards. The final section of the form is an 'Overall Evaluation.'

Judgement

Final performance is graded on a pass/fail basis. Given the importance of identifying performance which does not meet the pass standard, the *Field Education Manual* provides indicators of failing standards in relation to each of the six placement modules. The capacity of the field educator to make evaluative judgements about a student's performance is particularly important. They are supported in this role through training workshops, detailed information and tools in the *Field Education Manual*, and visits by the university field tutor. The final grade is awarded by the university's Field Education Unit Manager.

The role of standards

Each module references the relevant standards from the Australian Association of Social Workers (AASW) 'Practice Standards for Social Workers'. Students are introduced to the Standards in several courses prior to placement and are considered to be familiar with them by their final placement. As noted above, the Standards are incorporated in the learning curriculum statement and the assessment form. The AASW Code of Ethics (2010) is an additional foundational source though not explicitly referred to in the module documentation.

The role of evidence

- > The placement and assessment process requires students to develop a range of authentic documents such as policy papers, funding submissions, and research reports.
- > Case records are a major source of evidence in determining the student's achievement of a number of practice competencies including listening, engaging, forming relationships, picking up issues, and providing support.
- > A 'signature assessment' in fieldwork is the 'process report' where the student records an interview with a client and prepares a report that includes verbatim quotations, comments on their own and their client's feelings, and the knowledge and skills demonstrated in the interview.
- > The field educator (and sometimes the field tutor from the university) observes the student in action when appropriate, for example in chairing meetings, though not in direct client interviews.

Comment

The social work assessment process explicitly addresses professional standards and is strongly evidence-based and performance oriented. Moreover, the assessment process incorporates all of the features highlighted in 'Assessment 2020: Seven propositions for assessment reform in higher education' (Boud & Associates, 2010), most notably the use of assessment to structure learning, the development of students as responsible partners in evaluating their own work, the focus on the assessment of integrated learning, and the rich and detailed portrayal of student achievement through the assessment format and use of evidence.

Case Study 2: Physiotherapy

School: Division of Physiotherapy, School of Health and Rehabilitation Sciences, The University of Queensland.

Informants: Rosemary Isles and Ruth Dunwoodie, Division of Physiotherapy, School of Health and Rehabilitation Sciences, The University of Queensland.

The context of assessment

The Division of Physiotherapy has been providing physiotherapy education to Australian and International students since 1938. There are two pathways to gain qualifications to register as a physiotherapist - a four-year entry-level bachelor's degree and a two-year accelerated graduate-entry master's program. This report will focus on the undergraduate program, The Bachelor of Physiotherapy (BPhty).

For the first three years of their course, BPhty students are assessed internally using a mixture of practical exams and other assessments to measure theoretical reasoning. The practical exams are a 'must pass' component of the courses. Through these processes students are prepared, and their readiness confirmed, for the clinical immersions in fourth year.

At the start of their fourth year, students complete a three-week intensive Standardised/Simulated Patient Activity using actors who are trained and paid to portray patients. These simulations help the

students to develop required levels of professional communication and interaction. This training occurs before students participate in any external clinical placements. During fourth year the students complete five blocks of five-week Clinical Placements – called Clinical Immersions. These placements must demonstrate coverage of the three key areas: Musculo-Skeletal, Cardio, and Neurological. Students must also demonstrate that they have worked across all age-groups – a balance is required. However, the approach is ‘principle-based’ rather than ‘condition-focussed’ – acknowledging that graduates cannot be exposed to everything, but they are taught principles which can be applied to a range of settings. This curriculum meets the requirements set by the Australian Physiotherapy Council.

The assessment process

Clinical Immersions for UQ students are organized by the Division of Physiotherapy at UQ, but they are assessed by external clinical educators (CE) working in the placement settings. These CEs are offered training and support as they learn to use the competency-based, standardized assessment tool, the *Assessment of Physiotherapy Practice (APP)*. This instrument was an output of a national project funded by the Australian Learning and Teaching Council and involving seventeen Australian and New Zealand universities, including Griffith, Monash, LaTrobe and Curtin Universities and the University of New South Wales (Dalton, Keating, & Davidson, 2009).

The APP is an instrument designed to guide formative and summative feedback processes in Clinical Immersions. There are seven domains or aspects of practice in the instrument with a range of criteria (between one and five) within each domain, for a total of 20 criteria. A rubric is used to interpret each of the criteria. A five-point scale is used to grade each criterion; with 0 and 1 indicating minimal acceptable competency has not been achieved. Student assessments are conducted in the mid- and end- points of each clinical immersion. The assessment process requires students to first complete a self-assessment using the tool and then compare their perceptions of their performance with the clinical educator perceptions. This is seen as a critical part of the process to develop the students’ reflective practice capabilities.

The role of standards

The seven domains identified in the APP tool are:

- > Professional behaviour
- > Communication
- > Assessment
- > Analysis and planning
- > Intervention
- > Evidence-based practice
- > Risk management

These domains and the corresponding criteria were identified by the project team (Dalton et al., 2009) after extensive consultation with the profession including: academics, clinical educators, students, and other stakeholders. Consequently, the standards in the APP reflect the Australian Physiotherapy Council (APC) standards for Physiotherapy while not explicitly referencing them. Notwithstanding

this, the APP is described as “a practical, one-page instrument that reflects the Australian Standards for Physiotherapy” (Dalton et al., 2009, p.1).

Within the physiotherapy community of clinical educators there is reasonably strong agreement about the ‘passing’ level of acceptable practice on the APP. There is however, not always agreement on the upper ends of the grading scale. There can also at times be some disagreement between the clinical educators about the appropriate levels of entry-level graduate capabilities. Some CEs expect more of graduates and they forget that the degree is entry level. Discussions about these sorts of issues occur at the CE training sessions.

Different universities (even in South East Queensland) have slightly different rules about how they use the APP. UQ requires all domains/aspects to be passed. Students may not receive more than three scores of “1” – and these cannot be in the same domain. Some universities interpret this differently.

The role of evidence

The items of the APP are assessed on the basis of student performance of observable behaviours. Grading decisions using the APP are therefore supported by evidence from a range of sources, including direct observation, case notes, projects and presentations.

Portfolios are also used in every course within the degree. In each course students are requested to reflect on their practice and to document learning. In the fourth year they are required to demonstrate their clinical reasoning drawing on skills and knowledge developed in the first three years. There are plans to create an online version of the portfolio, drawing on the work done within the nursing division of the Faculty. There are some issues with the assessment of the portfolio as it is workload intensive. Consequently, there are discussions at present about whether it should be marked on a pass/fail basis or be an unmarked piece of assessment. The concern is that its being unmarked would undermine the valuable learning possible through the tool.

Comment

The APP was developed to provide a reliable tool that could assess practice competencies of physiotherapy students. The tool has been adopted by most universities in Australia as their sole method of assessing physiotherapy practice, whereas previously there were up to 25 distinct assessment forms.

The development of the APP was guided by the Standards for Educational and Psychological Testing (American Educational Research Association, et al. 1999) and the process of development utilized an action research cycle including: preliminary information gathering, instrument development, trial/field test stages, and continuous refinement of the instrument based on evaluation throughout the different phases. Research by Dalton et al. (2009) has demonstrated the validity and reliability of the tool.

Instrument validation included Rasch analysis that indicated desirable scale properties, factor analysis that indicated a single dominant underlying construct, and positive student and educator feedback regarding instrument suitability. Inter-rater reliability was established using with two independent ratings of 30 students ($r = .96$, $SEM = 2$ APP units). (p. ii)

The APP facilitates benchmarking across universities, and allows the direct comparison of assessment outcomes across varied educational programs to provide a common language for cross-program discussion and to allow the use of standardised educator/assessor support packages.

At the conclusion of their degree, all graduates can apply to be registered with the APC, and there are no further requirements to begin practising. There are ongoing yearly currency requirements to maintain registration.

Case Study 3: Occupational Therapy

School: Division of Occupational Therapy, School of Health and Rehabilitation Sciences, The University of Queensland.

Informant: Merrill Turpin, Division of Occupational Therapy, School of Health and Rehabilitation Sciences, The University of Queensland.

The context of assessment

The first year of the Bachelor of Occupational Therapy (OT) program combines studies in theoretical and practical OT with biological and behavioural sciences. In second year, students develop this knowledge and apply theory to practical problems of occupational therapy. In their third and fourth years students focus on occupational therapy techniques, clinical practice in teaching units in hospitals and community health agencies, professional issues, and studies in statistics and research techniques. The program is accredited with the World Federation of Occupational Therapists, which requires 1000 hours of supervised practical work.

Between 1995 and 1998, a team of eight occupational therapists representing both clinical and university settings worked to develop the Student Placement Evaluation Form (SPEF). Using an action research methodology the development team trialled and refined an evaluative tool which provides “formative and summative feedback for students undertaking part- or full-time professional practice placements during the latter years of their occupational therapy education” (Division of Occupational Therapy, 2008, p. ii). Following extensive national uptake, changes in professional practice settings and service delivery models, a revised version of the SPEF, the SPEF-R, was released in 2008 after extensive stakeholder consultation. Today, the SPEF-R is recognised by Australia’s professional body, OT Australia, and is the evaluation tool used in all OT programs in Australian universities.

In 2005, the value of the SPEF was acknowledged through an Australian Award for University Teaching in the category of Excellence in Improving/Enhancing Assessment. Internationally, The SPEF-R was listed as “a major fieldwork assessment tool for occupational therapy students, along with the *Fieldwork Performance Evaluation for the Occupational Therapy Student* used in the United States, and the *Competency-Based Fieldwork Evaluation for Occupational Therapists* widely used in Canada and the United Kingdom” (Turpin, Fitzgerald, & Rodger, 2011, p. 68).

The assessment process

The SPEF-R is used on the longer professional practical placements within the OT program, and the validity and reliability of the tool are dependent on its correct use at both the half-way and final evaluations. To assist professional practice educators in the correct use of the tool an extensive user manual was developed (Division of Occupational Therapy, 2008). An extensive web-based training package is also provided for professional practice educators using the tool (Division of Occupational

Therapy, 2011). The SPEF-R tool is designed to grade an OT student's performance on a pass/fail basis, but "the emphasis is on providing students with feedback that is helpful, objective and specific" (Division of Occupational Therapy, 2008, p. 2).

The role of standards

The SPEF tool addresses learning objectives across eight domains:

- > Professional behaviour
- > Self-management skills
- > Co-worker communication
- > Communication skills
- > Documentation
- > Information gathering
- > Service provision
- > Service evaluation

These domains were identified, developed and refined after extensive stakeholder consultation in both the original and revised editions of the SPEF tool. For each domain an item bank is provided that describes the knowledge, behaviour and/or skills that demonstrate a student's achievement. Professional practice educators are encouraged to customise assessment criteria so that they fit the particular workplace. The *Australian Competency Standards for Entry-Level Occupational Therapists (OT Australia, 1994)* were used by the development team to determine which items within each domain are core, and which must be passed by a student to fulfil the requirements of each learning objective. Each item is rated using a five-point scale and professional practice educators also provide specific written feedback about the learning objectives. Finally, a summary statement regarding the student's overall performance is recorded along with a pass or fail result. Students must meet prescribed minimum requirements in order to be awarded a passing result.

The role of evidence

The assessment processes conducted within the OT program place considerable emphasis on the "sufficiency of observation to substantiate ratings/feedback, the evaluation is most suitable for later year/s block practice placements of at least five weeks duration" (Division of Occupational Therapy, 2008, p. 2). A rating scale is provided as part of the SPEF-R user manual to guide the professional practice educator's decisions about a student's attainment of each item. In the case where there has been insufficient opportunity for a professional practice educator to observe a student's performance on an item they have the potential to allocate the "insufficient observation" (IO) rating. An IO rating on any item does not prevent a student from passing.

The methods used to gather evidence to support evaluations made using the SPEF-R (Division of Occupational Therapy, 2008) include:

direct observation of the student, asking questions, viewing written reflections, reading documentation, and asking students to present information. Practice educators are

encouraged to decide prior to the commencement of the practice placement the type of information required to substantiate ratings for each SPEF-R item (p. 11).

The evidence used to substantiate evaluation decisions needs to be “valid, addressing what is meant to be evaluated; and sufficient, ensuring that enough information is available to support the evaluation process” (Division of Occupational Therapy, 2008, p. 11).

Comment

When using the SPEF-R, students are rated as students, as opposed to being evaluated as newly graduating therapists. The fact that a placement, even near the end of a student’s program of study, may be a new context for him/her means that they are not necessarily expected to demonstrate an incremental level of mastery or attainment, when compared to their previous placement.

Students are encouraged to keep a record of their specific learning using a portfolio tool called the *Resume Preparation Tool – Record of Professional Practice Placement Experience-Revised Edition*. Although this is not a compulsory assessment task within the SPEF-R, it clearly provides very useful information near the end of their program when they are applying for jobs and completing resumes and addressing selection criteria.

8.3 Some conclusions from the study of other professions

The case studies of assessment practices in social work, physiotherapy and occupational therapy have some potential implications for the consideration of assessment processes in teacher education programs. These implications, summarized below, reinforce and support the features of a high quality system of preservice teacher assessment that were identified in Section 4 of this Report. There is a focus in these case studies on collecting diverse forms of evidence of professional performance across different contexts of practice. Best practice in assessment for these professions also includes considerable effort to develop common expectations and frames of reference between campus-based components of the degree program and contexts of practice. The key implications are:

- > Assessment in these professions is performance- and evidence-informed. Performance domains are specified and a range of sources and types of evidence are used to measure the achievement of intended learning outcomes.
- > Assessment takes account of variations in fieldwork settings and traditional notions of sequential development are not always possible or appropriate because students may be practising in a new context even though it is their last practicum.
- > Assessment instruments are user-friendly and support self-assessment. They are used formatively during field placements as well as summatively at the end of the placements.
- > The assessment processes used are clearly and thoroughly documented through comprehensive manuals and, in the case of occupational therapy, an extensive web site has been developed to support external clinical educators.
- > Assessors in the field receive formal preparation for their role, and work in conjunction with university-based assessors to assess student performances. In some cases, the clinical educators complete the assessment process.

- > The assessment tools in physiotherapy and occupational therapy were developed to measure the student's practical demonstration of the professional standards in those professions. In social work, practice standards are explicitly referenced at several stages of the assessment process.
- > The physiotherapy and occupational therapy instruments and associated practices were developed through extensive national collaboration and are widely accepted across Australia.
- > An extensive consultation process with relevant stakeholders was used to develop the assessment tools in physiotherapy and occupational therapy. This process has produced considerable goodwill, developed the relationships between stakeholders, and increased the commitment to the assessment tool from all parties concerned.

9.0 Conclusion

This Report on assessment practices in teacher education has collated many different examples, nationally and internationally, of best practice. A key conclusion, therefore, is that there are diverse ways to authentically assess what preservice teachers know and can do. The Report offers an informed set of options for the design of assessment in teacher education programs rather than a prescribed one-size fits all approach to assessment.

The Report also foregrounds that teaching and teacher education are not merely technical or training activities, but knowledge-rich, value-informed, skilful and ethical activities, and different approaches are to be expected and lauded within a democratic society. Different universities will draw upon different theories, design principles, objectives for their programs and different assessment practices. The Report does not suggest uniformity in the design and delivery of teacher education programs, but rather an informed and sophisticated approach to assessment that adequately captures the breadth and complexity of the professional work of teachers.

The present moment in the history of schooling in Australia is the culmination of an emerging understanding of what constitutes good teaching and the profession of teaching. Teachers are expected to uphold high professional values and behave ethically (moral dimension); they are expected to be skilled in the routine procedures of teaching (skill dimension); they are expected to have a commitment to the national goals of education focussing on equity and excellence for all students (equity-excellence dimension); and they are expected to have mastered the range of disciplinary and professional knowledges that underpin the professional act of teaching (knowledge dimension).

The four dimensions that characterise the professional work of teachers are captured in the current QCT professional standards, so assessment foci and assessment tasks need to reflect in a comprehensive manner the professional standards. Thus, the features of a quality assessment system as specified in Section 4 of the Report can be ordered in terms of Presage Considerations, namely referencing the professional standards and the national goals for education and schooling. There are also Process Features that guide the way assessment tasks are designed, and these include the use of authentic assessment principles and enhancing preservice teachers' capacity to monitor and self-assess. Finally there are Quality Assurance Features that provide confidence in the whole system for key stakeholders.

Presage Considerations

- It reflects the overall goals for education in Australia as currently agreed and elaborated in the Melbourne Declaration, focussing specifically on excellence and equity.
- It aligns with current national (AITSL) and state (QCT) professional standards, focussing on practices, knowledges, and value commitments.

Process Features

- It is based on principles of authentic assessment.
- It captures the complexity of teaching.
- It captures the multifaceted nature of teaching in a comprehensive manner.

- It is a system that enhances the capacity of preservice teachers for self-assessment and reflection on their levels of developing knowledge and practice.

Quality Assurance Features

- It is a system of assessment that is moderated within programs, informed by sharing quality assessment practices across the sector, and meets the requirements of reliability and validity.
- It has support from key stakeholders.

Beyond these overall systemic considerations, the Report also identified from the assessment literature specific assessment tasks that enable more authentic assessment to be conducted. These tasks (Cases; Exhibitions; Portfolios; e-Portfolios; Inquiries and Teacher Research) require preservice teachers to integrate knowledge across domains and to consider in a reflective and reflexive manner the nexus between theory, knowledge and practice. These tasks can be designed in various ways and are open to innovation. Section 6 and Section 7 noted how these types of tasks were being adopted nationally and internationally as assessment practices.

Three final comments are relevant in considering the implications of this Report. First, many of the best-practice examples required extra time commitment from teacher educators and school-based staff, so there needs to be a realistic consideration of the feasibility of assessment practices related to cost. This should not be an impediment to best practice, but it is clear that a number of the national and international examples of best-practice innovations in assessment were supported by extra funding from specific funding organisations, and that the sustainability of the assessment practices was predicated on on-going funding.

The second comment is to highlight the need for on-going dialogue between teacher educators and stakeholders related to assessment. The assessment of preservice teachers is one of the most costly activities undertaken in teacher education programs because it often involves multiple judges examining complex products such as curriculum units, portfolios, and classroom performances across time. The current level of investment by universities in assessment, however, has not generated the level of trust from stakeholders that might have been expected. This gap can be overcome if stakeholders are more involved with universities in discussion of assessment practices and if there were opportunities for stakeholders to participate in moderation panels, give feedback and make suggestions.

The third and final comment is to highlight the need for substantial research projects on assessment practices per se, and the longer-term predictive validity of different assessment regimes on teachers' classroom practices and commitment to teaching.

Endnotes

Reliability and Validity of Assessment Judgements

i Reliability

Reliability is a technical quality of assessment items, tasks or programs that is concerned with the consistency of assessment outcomes. In this regard reliability is a feature of both assessment instruments as well as assessors' interpretations of the information generated by the instruments.

In the first instance, an assessment item is considered reliable if individual students' responses to the item are consistent, independent of where and when they complete the item. In the second instance, reliability of assessors' interpretations and judgements refers to their internal and external consistency. The consistency of assessors in this regard is described as either intra-rater reliability or inter-rater reliability.

Intra-rater reliability refers to an individual assessor's consistency of interpretations and judgement across students. Intra-rater reliability is particularly vulnerable to error caused by such effects as the order in which students' work is appraised, assessors' expectations of student response qualities, and other extraneous factors such as fatigue, repetition, time of day, etc. Inter-rater reliability refers to the consistency of interpretations and judgments between different markers concerning the same task-derived information. While this facet of reliability is also affected by personal factors, more notably it is influenced by the degree to which the assessors have a shared understanding of the basis upon which interpretations and judgments are to be made (including the criteria for the judgments and the evidence that instantiates the criteria).

The reliability of preservice teacher assessments, particularly in relation to the quality and outcomes of a practicum experience, is influenced in several notable ways. First, the teaching practicum contexts in which evidence of preservice teacher competence is collected can be quite unique for each student. For example, schools differ in terms of culture and ethos, students' motivation, engagement and behaviour, the students' prior knowledge, understanding and competence, the curriculum that is offered, and the facilities of the school. Similarly, supervising teacher expectations of and relationships with the preservice teachers can be quite varied and have implications for the realised practices of the preservice teachers, including their inclinations and opportunities to demonstrate valued professional competencies. What is valued at the school site and thus expected of the preservice teachers in terms of practice and quality may be different to the expectations of the professional standards.

This diversity of contextual and personal differences means, of course, that the information that can possibly be collected by the students for assessment of their preservice competence and quality will likewise be inconsistent in terms of focus and value. The varied nature of the evidence of teaching competence that can be collected from such diverse contexts raises questions about processes for ensuring reliable and valid judgements of preservice teacher professional quality and readiness for practice, including what can be reasonably admissible and presentable as evidence of preservice teachers' emerging professional standards.

ii Validity

The validity of assessment tasks is heightened when there is an explicit mapping from the actual requirements of teaching to the design of the assessment tasks to be undertaken by preservice teachers. In this review we have addressed issues of validity primarily by adopting the authentic assessment framework. This framework requires that assessment tasks reflect the actual complexity of teaching a specific group of students and focuses on the core processes required of a teacher to effectively enhance the learning of the students. The face validity of the assessment tasks will be heightened where the assessment tasks are designed in a team of teacher educators and teachers and where situations and challenges to be addressed by preservice teachers are derived from actual cases and circumstances.

As Darling-Hammond and Snyder (2000) note authentic assessment requires multiple measures across time and contexts. It is likely that preservice teachers will vary somewhat in how well they achieve across these different measures and contexts. It can be argued that, just as reliability is somewhat problematic in assessing preservice teachers who are teaching in very different contexts and conditions, so too it may appear that variability in achievement across tasks could bring into question the validity of particular measures. It is relevant to foreshadow the Deakin Authentic Teacher Assessment (ATA) task (see below for extended description) because it was found that a couple of students who achieved very well in their practicum reports actually failed the ATA assessment task that involved teaching a focussed sequence of lessons with structured reflections and analysis. The lack of agreement raises questions about the concurrent validity of the task because one would assume that actual performance in classroom teaching is a strongly face-valid measure of teaching competence. The Deakin team explained that the students who failed the ATA had difficulty writing in a reflective and insightful way about their practice and their decisions and judgements. One explanation of the lack of agreement between the ATA and practicum reports could be that these preservice students were quite capable in following advice from their supervising teachers but unless they learn to be more reflective they may plateau in their development as accomplished teachers.

Another measure of validity is whether the preservice teachers, during their teaching experiences and practicum (Exhibitions), actually enhance the learning of their students. It is a complex issue – a preservice teacher may plan and implement a series of lessons effectively but not be able to demonstrate significant learning in the students for a range of local reasons. The focus on student learning, however, has to remain central to issues of validity because the goal of teaching is clearly student learning and to be an effective teacher one has to demonstrate that one has actually achieved this. In the examples of authentic assessment described in this report, attention is given to monitoring student learning and adjusting teaching strategies in response to students' interest and progress. In this sense the preservice teacher has to demonstrate a focus on student learning and a capacity to adjust teaching strategies to enhance student learning, rather than simply demonstrate gains on tests and formal examinations.

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