Literacy Enrichment and Technology Integration in Pre-Service Teacher Education

Jared Keengwe  
*University of North Dakota, USA*

Grace Onchwari  
*University of North Dakota, USA*

Darrell Hucks  
*Keene State College, USA*
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Robyn Seglem, Illinois State University, USA
Peter Carlson, Green Dot Public Schools, USA

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Reframing Conceptions of Contemporary Literacy Capabilities in Pre–Service Primary Teacher Education

Eileen Honan
The University of Queensland, Australia

Beryl Exley
Queensland University of Technology, Australia

Lisa Kervin
University of Wollongong, Australia

Alyson Simpson
The University of Sydney, Australia

Muriel Wells
Deakin University, Australia

ABSTRACT

This chapter describes the challenges of integrating new technologies with literacy education in pre-service primary teacher education in Australia. The authors describe the policy context and regulatory mechanisms controlling pre-service education, including a national set of professional standards for graduate teachers, a new national curriculum for school students, the introduction of high stakes national assessment for school students, and the looming threat of decontextualized back-to-the-basics professional entry tests for aspiring teachers. The chapter includes three case studies of the authors’ pedagogical practices that attempt to reframe conceptions of the literacy capabilities of pre-service teachers to reflect the complex and sophisticated requirements of teachers in contemporary schooling. The authors conclude the chapter with a discussion of the implications of these case studies as they illustrate the ways that pre-service teachers can be scaffolded and supported to develop creative capacity and critical awareness of the kinds of literacies required in the digital age despite restrictive regimes.

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INTRODUCTION

This chapter draws on the experiences and research of five pre-service teacher educators across three Australian states working in an era of unprecedented change. We, the authors, are all responsible for planning and delivering English curriculum and literacy units to pre-service primary (elementary) teachers (hereafter PSPTs) undertaking four year degrees to become teachers of students aged 5 to 12 years. We have each researched and designed innovative curriculum for PSPTs in our respective institutions that explicitly and implicitly facilitate their engagement with multiple and sometimes conflicting agendas in English curriculum and literacy teaching and learning. The most compelling of these agendas include an inaugural set of national professional standards for graduate teachers, the first ever Australian Curriculum for English which expands the repertoires of literacy practices to include multimodal and digital texts, the introduction of high stakes national assessment for primary school students which narrows the repertoire of literacy practices to print-based practices and the looming threat of decontextualized back-to-the-basics professional entry tests for aspiring teachers. All of these reforms are happening in the midst of another unsubstantiated media campaign targeting falling literacy standards and falling teacher standards.

In their overarching analysis of the field of education, Thompson and Cook (2012) draw on Deleuzian lens (Deleuze 1992) to discuss how agendas such as these act as “mechanisms of control”. Thompson and Cook (2012) suggest that we are moving from a disciplinary society to a control society, that disciplinary institutions such as schools are “in the midst of a general breakdown”, that disciplinary power is being replaced by modulatory power and that education is being seduced by business rationalities (p. 566).

They cite high stakes testing protocols as part of the transition from education as “disciplinary power” to education as “modulatory power”. This change to modulatory power is viewed “as a gradual, creeping seduction – the becoming-control society” (p.565). Although not committing to a position of support or otherwise, Thompson and Cook (2012) demonstrate how a Deleuzian lens sharpens our “focus on the corporate and performative practices and policies dominating education” (p. 565).

This chapter is focused on how we might reframe conceptions of contemporary literacy capabilities in PSPT education while operating within a “control society”. We are motivated by Connell’s (2009) plea that in an era of rapid change we do not need a picture of “the good teacher” in the singular, but pictures of good teachers in the plural, and good teaching in the collective sense. We need models of teacher education that will support creative, diverse and just teaching practices in an educational future that we can expect to look different from the educational past (p.226).

More specifically, as a collective, we seek to explore how our diverse understandings of literacy and the literacy capabilities of PSPTs are reflected in the pedagogical and assessment practices with which we engage as pre-service literacy educators. We begin by providing a contextual explanation of the modes of control currently being enacted in the Australian education sector. This is followed by a brief discussion about the diverse literacy capabilities required of PSPTs and the framework of literacy that we then use to describe our collective practices. These practices are illustrated through three case studies drawn from three different university programs. The literacy capabilities evident in these case studies are then mapped against the regulatory mechanisms governing our current work. The chapter concludes with a discussion of the implications of this mapping and the ways for accommodating the diverse literacy requirements of teachers in contemporary classrooms.
BACKGROUND: THE
POLICY CONTEXT

Schooling in Australia in the current era, the context in which we undertake our work as PSPT educators and researchers, is being governed by an ever-changing mix of state and federal funding procedures, policies, frameworks, guidelines, requirements and testing regimes that are all part of the drive for, and rhetoric of, “quality teaching”. The six state and two territory governments have historically individually administered school education in Australia. However, in the last half decade, the federal government has attempted to contest the organization and authority of this space as it applies to the 9500 Australian schools through multiple and sometimes overlapping agendas. We are all seasoned educators and yet we simply cannot recall a period of such intense activity around shifts in power.

The major driver is funding arrangements that are currently being used as a mode of control to leverage the state/federal political arrangements. The Australian federal government now provides significant levels of funding to state and territory governments to finance school education, funding that is usually tied to specific targets and/or to specific programs including the teaching of literacy. At the time of writing this chapter, current and future funding arrangements are sites for political struggle between a federal Labor government and the state conservative premiers (Gonski, 2011).

A second mechanism of control introduced by the federal government is the Australian Institute for Teaching and School Leadership (hereafter AITSL). AITSL has responsibility for:

- Rigorous Australian professional standards;
- Fostering and driving high quality professional development for teachers and school leaders; and
- Working collaboratively across jurisdictions and engaging with key professional bodies.

The mechanisms used to deliver these responsibilities are the National Professional Standards for Teachers (AITSL, 2011) and Initial Teacher Education Standards and Guidelines (AITSL, 2012). At the same time, the National Partnership Agreement On Improving Teacher Quality (COAG Reform Council, 2012) set future directions for improving teacher quality, while more generally the Tertiary Education Quality and Standards Agency (hereafter TEQSA) is establishing new national guidelines for provision and qualification standards for higher education.

An examination of the national standards for teachers and teacher education reveals that teachers are expected to have knowledge about how learners learn, how they develop in social contexts, and what Grimmett and MacKinnon (1992, p.387) refer to as “pedagogical learner knowledge”. Initial teacher education programs are expected to emphasize the importance of understanding diverse learners who are growing and developing over time, and the learning process (Darling-Hammond, 2006, p.85). The national standards for teachers and teacher education also identify a need for PSPTs to be graduating from high-quality programs that instill a sound knowledge of the process of how learners learn and how to adapt teaching to meet the specific needs of disparate learners. This involves developing an understanding of diverse learners including gender differences, students with special needs, culturally and linguistically diverse student groups, Indigenous students, and socioeconomically disadvantaged students. Furthermore, official accreditation of initial teacher education programs requires demonstration of how PSPTs will develop an understanding of cultural and religious diversity, and potential barriers to the learning of the students they teach (AITSL, 2011).
Initial teacher education programs must also prepare PSPTs to meet the standards of the profession as well as providing opportunities to develop skills that enable them to engage with their future colleagues, contribute to policy and research, analyze trends and initiatives within education, and contribute to the body of professional knowledge over time. The programs must provide opportunities to blend content and pedagogical study so that PSPTs think “pedagogically” about subject matter. Graduating PSPTs are expected to conceptualize teaching as “dependent on learning and the learning process as embedded in linguistic, cultural, and other experiences of students” (Darling-Hammond 2006, p.93). It is expected that graduating PSPTs will have developed general teaching skills and knowledge, pastoral care skills with a focus on student wellbeing, and develop teaching approaches that consider all domains of the child’s development (i.e., social, emotional, physical, cognitive). Initial teacher education programs are expected to prepare graduating teachers to use effective teaching and assessment strategies, and contemporary resources including digital technologies.

AITSL strongly recommends that programs should include the use of digital technologies appropriate to teaching and learning, embedded across all curriculum and discipline domains. To support the principled integration of digital technologies into initial teacher education, AITSL has developed ICT Elaborations for Graduate Teacher Standards. The elaborations were developed through the Teaching Teachers for the Future (hereafter TFF) initiative (AITSL, 2012). TFF is expected to build the capacities of teacher educators by embedding ICTs in pre-service teacher education curriculum, pedagogies, assessment and professional experience. AITSL explains that the TFF expects to enable pre-service teachers to “achieve and demonstrate (upon graduation) competence in the effective and innovative use of ICT to improve student learning” (AITSL, 2012).

Dinham (2013) has argued that “the role of professional standards has been twisted by some to be more about standardizing, judging and dismissing teachers than developing and recognizing them” (p. 4). Santoro, Reid, Mayer and Singh (2012) contend that

*teacher knowledge and practices prescribed and embedded in teacher professional standards are seen increasingly by policy makers and schooling systems as the most important way to ensure the “production” of quality teachers, an assumption that many researchers and teacher educators treat with some caution (p. 1).*

A third mechanism of control relevant to the preparation of literacy teachers in Australia is the newly introduced Australian Curriculum, overseen by the Australian Curriculum, Assessment and Reporting Authority (hereafter ACARA). The development and delivery of curriculum for English, Mathematics, History and Science has been completed (ACARA, 2012), with other learning areas such as Civics and Citizenship, The Arts, Physical Education, Technology and Languages Other Than English still in the writing stages at this point in time. The Australian Curriculum English foregrounds multimodality, listing ICT as a cross-curriculum priority and Literacy as a general capability.

Alongside this new national curriculum is the introduction of high-stakes literacy and numeracy testing for primary and middle years school students, similar to the situation in the United States (Stewart, 2004), the United Kingdom (Avila & Zacher Pandya, 2012) and Canada (Sharratt & Fullan, 2012). The NAPLAN tests (National Assessment Plan Literacy and Numeracy, see http://www.nap.edu.au/naplan/naplan.html) supposedly give schools and systems the ability to compare students’ achievements against national standards in Reading, Writing, and Language Conventions (Spelling, Grammar and Punctuation) (Exley & Singh, 2011). The then-federal Minister for
Education, Julia Gillard, legitimized the initiative, stating that it “provides rich information” that could be compared and analyzed to work out why one school was doing better than another (Drape, 2008). Promoting the process of standardized testing as neutral, Gillard reportedly claimed “The Australian community will now be able to clearly see those student groups which need more support to improve” (Drape, 2008). As Thompson and Cook (2012) have pointed out, expressions of concern about the effects of NAPLAN include issues related to teachers narrowing the curriculum by teaching to the test, school administrators hiding information, improperly manipulating data and focusing teaching resources on a narrow band of students.

Finally, a fourth mechanism of control specifically designed to regulate teacher education practices has been supported first in the state of Queensland and more recently by the federal government. The introduction of high stakes testing into this context began with a report into the quality of education in Queensland schools (Masters, 2009) which recommended that, to build confidence in teaching standards, all aspiring teachers should undergo a pre-registration test in literacy, numeracy and science. Political and economic changes in the landscape delayed the implementation at the state level, however AITSL and the federal government have indicated support, leading Professor Wendy Patton, the Queensland representative on the Australian Council of Deans of Education (hereafter ACDE), to note in the ACDE Annual Report 2012 that the matter of a pre-registration test for aspiring primary teachers “would appear to not be totally off the table” (ACDE, 2012, p.16).

Policy makers and school systems find support in, and use to their benefit, arguments such as those made by Lingard (2005) who claimed that, “Of all school variables... it is teachers who have the greatest effect on student learning outcomes” (p.174). Dinham (2013) expresses concern about how this sort of “evidence” is used “against” the profession and raises “concerns over the potential hijacking of what he calls “the quality teaching movement” (p.1). He points to “a concerted push by state and federal governments and educational systems to enact policies to improve ‘teacher quality’” and expresses concern about data such as NAPLAN results being “misused to criticize and condemn” (p.4) teachers. As Darling-Hammond argues, teacher education is important “and difficult” (2006, p. 19). Teaching is a very complex activity and results on standardized tests are unlikely to effectively assess the complex skills of teaching generally as well as the complexity of literacy teaching capabilities required in the digital age.

THE LITERACY CAPABILITIES OF PRE-SERVICE PRIMARY TEACHERS: THREE CASE STUDIES

The prevailing view in public discourse about PSPTs’ literacy capabilities constructs them as deficit. Claims about their deficiencies are made in newspapers with headlines such as Can’t write can’t spell (The Age, 26 February 2007), or Teacher entry scores targeted in bid to lift classroom standards (The Courier Mail, 16 October 2010). National reports and reviews include a general consensus that beginning teachers need to “possess high levels of personal language and literacy competence, and the ability to communicate effectively with a range of audiences” (Queensland Board of Teacher Registration, 2001, p.48). One report (Masters, 2009) included assumptions about beginning teachers’ lack of literacy competency while comments about the creation of “toxic teachers” (Sydney Morning Herald, October 3, 2012) contribute towards an increasing public distrust of graduating teachers.

Most of the dialogue around PSPTs’ preparedness focuses on a very narrow traditional view of literacy (e.g. knowledge of phonics or spelling), yet the Australian Curriculum highlights the
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importance of understanding the diversity of texts in contemporary societies, using and creating a range of modes and modalities (Exley & Mills, 2012; Kalantzis & Cope, 2012; Kervin & Derewianka, 2011; Walsh & Simpson, in press) and learning through design (Kress, 2010).

International and national studies decry the lack of integration of new technologies into initial teacher education programs. The OECD’s Centre for Educational Research and Innovation report found that “in most OECD countries teacher training institutions are not doing well at providing student teachers, not only with the vision, but, what is also important, the required experience of integrating technology in learning environments” (2009, p.1). The Horizon Project, that identifies emerging technologies which are likely to have international impact on education, noted that “Teacher preparation programs are beginning to include courses related to digital media literacy, and universities are beginning to fold these literacy skills into coursework for students, but progress continues to be slow” (Johnson, Smith, Willis, Levine, & Haywood, 2011, p.5).

At the same time there are continued calls for a focus on a traditional skills-based approach to literacy. Tensions lie between the traditional skills based view of literacy and the “new” literacies associated with the New Literacy Studies (Street, 2005; Coiro, Knobel, Lankshear & Leu, 2008), multiliteracies pedagogical approaches (Cope & Kalantzis, 2009; Wells & Reynolds, 2005) and the use of digital texts in classrooms (Honan, 2010).

In contrast to the narrow and deficit views that are currently circulating, our position is that initial teacher education programs need to reflect a much more complex and sophisticated understanding of literacy. One framework useful for comparing the literacy requirements of our different courses and programs has been developed and explicated in Devereux and Wilson’s work (2008) to describe the different “genres” and “voices” that PSPTs encounter during their literacy education.

The “personal” is necessary to engage with children and to develop meaningful social relationships with parents and caregivers and colleagues and the “professional” is required for day-to-day work and communications about student progress, curriculum and so on. Mastery of the “academic” voice is also vital if a teacher is to keep abreast of developments in the field, to critique their practice and to think critically about their professional practice (Devereux & Wilson, 2008, p.124).

This section of the chapter showcases examples of innovative planning and assessment used in three universities from three Australian states where populations of PSPTs exhibit varying literacy needs and different knowledge of technologies. To exemplify the complexity of the current situation, our shared views of literacy capabilities of the most worth and how we construct and deliver our PSPT education courses, we illustrate the diverse range of challenges pre-service teachers face during their study as they are required to make use of professional, personal and academic literacy skills while engaging with a spread of technologies. The case studies also demonstrate the pedagogical practices we use to support our PSPTs to become teachers of the future. At the outset, we acknowledge the divergent approaches to meeting the same professional requirements as PSPTs work with print and digital texts. In addition, different methods were used to collect and analyze the data. Therefore, a set of lenses through which to view the case studies has been provided using the headings: pedagogic practice, learning/teaching nexus and reflective feedback. These framing concepts allow us to examine the ways in which PSPTs develop personal, professional and academic literacies for new times in each of the three case study contexts.
Case Study 1: Using Literature Circles

Case Study 1 recounts the experiences of PSPTs at an inner city university undertaking a four year undergraduate education degree where four units address English and literacy teaching and learning outcomes. Each unit also provides PSPTs with opportunities to develop their personal literacies.

Pedagogic Practice

The pedagogic practice reported in Case Study 1 is a learning and assessment task known as Literature Circles (LC) completed by all PSPTs in their final year of study. It is based on principles of dialogic pedagogy and incorporates multimodal communication skills as well as traditional academic writing. Because the task is based on response to a novel there is wide potential to engage with PSPTs’ prior knowledge that allows for different expressions of personal creativity whilst meeting professional curriculum outcomes. The learning and assessment cycle involves Speaking and Listening, Reading and Viewing, Writing and Representing, Handwriting and Using Digital Technologies. This case reports on the response to this task from a cohort of 100 fourth year PSPTs.

A Literature Circle is defined as an activity based around critical discussion of a literary text, which involves group members taking on different roles and prompting others to develop a rich understanding of the text (Daniels, 2002). The task is run in small groups of four to five PSPTs and requires demonstration of personal literacies in presentation and questioning skills. The final summative report illustrated with a digital record of the Literature Circle activity frames academic literacies as it incorporates references to the ideology of the text, unit readings, reflections on peer feedback and a clear overview of the pedagogic intent of activity. Professional knowledge is demonstrated when the PSPTs reflect on changes needed to enhance their Literature Circle activity in the future by discussing curriculum outcomes, the linguistic demands of text and/or evidence of diverse student needs. An example of planning notes for the activity of designing a poster calling for the forests to be protected is shown in Figure 1. Figure 2 illustrates how one PSPT captured her peers’ use of vocabulary and visual symbolism, demonstrating how the Literature Circle helped her to recognize that the author’s language choices had embedded a political message in the literary text.

Figure 1. Planning notes for Literature Circle activity

Figure 2. PSPTs working on poster
Learning/Teaching Nexus

The Literature Circles assessment task encourages text appreciation, lesson planning, reflective writing through the use of dialogue around print text and digital record keeping. The pedagogic chain sets up connections from reader to literary text – reader to reader through multiple modes – reader back to literary text re-framed through the multiple lenses of theory, curriculum documents and lived experience. The innovation of the activity to situate professional insight in personal engagement assessed at academic standards brings about deep learning for the PSPTs and awakens their interest in the potential of text study in the primary school classroom.

Case Study 1 highlights the structure of a learning and assessment cycle carefully built around a deliberate pedagogic design. PSPT feedback collected on this unit through Unit of Study Evaluations, focus group interviews and unsolicited emails mirrors the experience across the whole cohort. The mix of responses provides evidence of the value of the task in developing professional knowledge including literacy capabilities.

For example, the text below was sent from a student to the unit coordinator months after the unit concluded:

*I just wanted to let you know that since learning about literature circles in your class, I created a unit and novel study as part of my Action Learning Project for internship. So far it has been a great success! My students are so motivated, not only because of the quality literature but also because of this creative approach to reading groups. It has allowed them to have choice and to express their creativity, knowledge and understanding about the book... The kids have produced quality activities and are so engaged in discussion and reading!*

In other feedback the 2012 PSPT cohort identified aspects of literacy as part of their perceived accomplishments. For example, the PSPTs reported that dialogic pedagogies found in tasks such as the Literature Circles assessment allows them to “build connection between theory and practice in a way that is more meaningful for work in the classroom because of the emphasis on oral communication skills rather than only written tasks”. The incorporation of technology to record their interaction with others provides opportunities to “creatively show their understanding of knowledge and allowed them to have more freedom to express their ideas in their own fashion” as well as “reflect on previous work done as a teacher and to work for improvement in the development of future goals”. Comments such as, “I think that variety is definitely key to achieving authentic assessment”, show that these PSPTs recognize the importance of learning in ways that move beyond standardized conceptualizations of literacy.

Case Study 2: Digital Story Learning

Case Study 2 focuses on a four-year undergraduate education degree at a regional university where PSPTs undertake four Language and Literacy units. Each unit is designed to build knowledge of the micro and macro skills across the language modes and to provide opportunities for PSPTs to explore classroom applications. Personal literacies are a key focus in the two first year subjects.

Pedagogic Practice

The pedagogic practice reported in Case Study 2 is a Digital Story learning and assessment task from the second Language and Literacy unit undertaken by the PSPTs in the second semester of the first year of study. This unit focuses on teaching reading and writing in the early years of school through socio-cultural theories of literacy. Reading and writing and their interconnectivity are examined in terms of phonics, text conventions and other basic skills, interpreting and making meaning from texts of all kinds, and reading for a range of purposes including critical reading.
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These practices are examined from a theoretical perspective and critiqued to explore future potential. Explicit links to personal literate practices, relevant curriculum documents, as well links to other units in the first year of the degree program and in-school experiences are made. This case reports on the experiences and responses of 221 first year PSPTs.

The Digital Story is defined in this experience as a multimedia presentation that comprises a 250 word oral script, 10-15 images and is between 2-3 minutes in duration. In this learning and assessment task PSPTs were required to create a Digital Story as they respond to the prompt: **Who am I as a literate person?** In doing so, PSPTs were encouraged to consider: knowledge about their own personal literacy competencies; their own literate experiences at home, school and community contexts; and offer some reflections about the literacy teacher they aspire to be. An excerpt from one digital story is illustrated in Figure 3.3. This story was awarded a “credit”, that is a result above a “pass” and below the higher achieving bands. This example is thus representative of the average mark awarded for the task. Each Digital Story was viewed in tutorial groups comprised of 25 PSPTs and a tutor during the assessment submission week. Written peer feedback was offered to each PSPT and the tutor provided a grade and criterion referenced written feedback.

Learning/Teaching Nexus

Despite the Digital Stories being relatively brief, the construction process proved complex for many PSPTs. Managing and manipulating the technology was not an issue for the majority of the students, rather writing the 250 word script provided the greatest challenge. The requirement of a reduced word count meant that each student had to engage with higher levels of critique and synthesize their own ideas and understandings to ensure that every word counted. The selection and manipulation of images also took time. The PSPTs were encouraged to use their own images to avoid issues of copyright and to also add to the personal nature of their stories. The PSPTs discovered the need to not only manipulate images (for example, to protect the identity of others) but also to ensure they had made appropriate selections to add to the meanings within their story. Voice recording also became time consuming as many PSPTs’ confidence with their own voice came to the forefront. The voice recording did, however, provide a solid example of the spoken linguistic abilities of each member of the student cohort.

Reflective Feedback

The task asked the students to consider three important areas of their emerging professional identity as a literacy educator. Each will be examined in connection with written evaluations provided by the PSPTs.

**Knowledge about their own personal literacy competencies:** More than three quarters of this cohort spoke about deficiencies in their personal literacy competencies with concerns about gram-
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More than half of the PSPTs identified engagement with technology and its literacies as affecting their skill base with more traditional literacies: “excessive use of sms and social media in my teens” and “technology encourages me not to use language correctly”. Image selection that accompanied the written text included certificates and awards, covers of grammar textbooks and examples of work samples heavily marked and graded by a teacher.

Awareness of their own literate experiences at home, school and community contexts: Each of the 221 Digital Stories profiled early home literacy experiences. Listening to favorite narratives read by significant others was a common theme across the presentations. Fifty-nine PSPTs identified specific books they had received as presents. When talking about school literacies, many identified specific writing experiences and favorite teachers. Images in response to this topic included photographs of themselves as children, book covers and writing samples from primary school workbooks. Some PSPTs referenced involvement in community groups and practices associated with this. For example, one PSPT talked about her role with Guides and how she enjoyed recounting experiences by writing in her diary. Another PSPT identified her love of books as a motivation to pursue involvement with drama and theatre sports.

Reflections about the literacy teacher to which they aspire: Many students appeared to disregard this component of the task with only 33 students providing more that 30 words of response. Common themes included comments like “make literacy learning an active and enjoyable process”, “fostering a love of literature” and constructing their teacherly self as “a positive role model”.

The opportunity to create a multimodal text such as a Digital Story appealed to the majority of the PSPTs. Each of the 221 Digital Stories was remarkably different. The process of planning and editing the Digital Story involved the participants in complex literacy concepts such as sequence, audience and conveying meaning through multiple modes. The opportunity to bring together visual images with written text provided insight into the PSPTs’ connections and understandings about literacy. For this cohort, Digital Storytelling was a motivating learning experience. It supported the PSPTs to synthesize and clearly articulate their reflections, provide a concrete demonstration of their understandings of literacy practices through an integration of written, visual and oral texts, and build technology skills.

Case Study 3: Using Online Wiki

Case Study 3 focuses on the assessment tasks associated with one literacy unit that is part of a four-year undergraduate education degree at a regional Australian university. In this context, there are three opportunities for PSPTs to study semester long Language and Literacy units. Each unit is designed to build knowledge about the diversity of learners and the “funds of knowledge” (Moll, Amanti & González, 1992) school students bring to learning experiences, the collection and use of data in planning for teaching, and explorations of how multimodal literacies can enrich teaching and learning in literacy education.

Pedagogic Practice

The pedagogic practice reported as Case Study 3 is the preparation of an online wiki site undertaken as part of the assessment for the second unit which examines the development of listening, speaking, reading and writing and creating hard copy print and digital multimodal texts in the early years of schooling (students aged four – seven years) in diverse learning environments. Through fieldwork in young learners’ homes and schools, and engagement with contemporary theoretical frameworks, the PSPTs are positioned as researchers as they explore the “funds of knowledge” (Moll, Amanti & González, 1992), learning needs of young lit-
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The PSPTs engage with a variety of pedagogical and assessment approaches, explore a range of literacies encountered by young learners including visual and digital literacies, and reflect on their personal learning.

The PSPTs were required to design and publish a wiki to demonstrate their knowledge about new literacies practices by presenting observations about early years literacy learners’ use of digital technologies at home, and teachers’ use of technology and digital media in early years classrooms that enhances teaching and learning. In sharing these new understandings with their fellow PSPTs, critical awareness of digital texts was heightened. Sharing the wiki involved a brief (approximately fifteen minute) face-to-face presentation in which the PSPTs reflect on their experiences and explain new learnings and problems encountered. This learning event provided an opportunity to explore the theory/practice nexus and reflect on how various theories about multimodal literacy and literacy pedagogy addressed in the course texts is evident in the early years teaching approaches observed in the professional experience classrooms. The PSPTs were encouraged to think about the wikis sites as a rich and useful resource that can be added to throughout their pre-service study and can be still available after graduation. The PSPTs were also encouraged to invite colleagues to join the wiki communities and to consider the power of Web 2.0 technologies for tapping into the collective consciousness and communal knowledge.

One group prepared a table of information about students’ literacy practices (see Figure 4). The table included text and images while demonstrating knowledge about current literacy practices. On another page in the same wiki site the group embedded images and video.

Graded criterion-referenced marking was used in the assessment of the group wikis. The best of the wikis were able to combine all modes including text, images, audio and video. Smart phones allowed easy preparation of short videos for this purpose. Those that were not as strong tended to present blocks of text in very few long pages with limited elements of multimodality embedded.

Learning/Teaching Nexus

For many PSPTs this first attempt to design and publish a digital online wiki was a significant learning experience. The PSPTs had to learn about navigating online sites, making a wiki accessible to readers (audience), determining a suitable page length, linking to other pages and other sites and embedding audio, images and videos. They had to work collaboratively in groups to decide which content would be included or not included.

This cohort of PSPTs included many mature age students as well as school leavers. While some school educationalists think of all young people as “digital natives” (Prensky, 2001), their skills are often more as users than creators of digital content. Most of the PSPTs can, and do, use phone texting, email and social media and they have used computers to prepare (mostly) text based assignments. Some of these skills are transferable, but this was still quite a big learning curve for many. The mature age students came with a range of skills too but their numbers included a significant percentage who had very limited skills in the creation of digital content.

Reflective Feedback

Most of the PSPTs appreciated the opportunity to have an authentic purpose to learn how to create an online site in the form of a wiki. If this task had not been assessed many would not have engaged to the same degree. By completing this assessment task the PSPTs combined the development of knowledge about language and literacy teaching and learning generally with the requirement to create the digital text in the form of a wiki. Some PSPTs thanked the lecturers for ‘forcing’ them to learn how to do something they originally thought would just be too difficult. The
PSPTs also expressed pride when teachers in their professional experience schools were impressed with this demonstration of their efforts, knowledge and technological skills.

**DISCUSSION**

The discussion of these case studies is based on a mapping of the literacy capabilities against the regulatory mechanisms that were described in the first part of this chapter. In particular we draw attention to the evidence that PSPTs are demonstrating the requirements outlined in the National Professional Standards, the ICT elaborations and the Australian Curriculum. As well, we provide a further discussion about the need for diverse literacy capabilities that go beyond the narrow interpretation of the requirements for contemporary literacy teachers outlined in those official documents.

It must be noted however, that the case studies provide only a limited view of the approaches to literacy education taken at each of the three universities. We have attempted to capture the variety of assessment tasks offered to PSPTs in our programs, illustrating our overall usage of the concept of personal, professional and academic literacy capabilities rather than a more detailed in-depth account. In each university, within each initial teacher education program, pre-service teachers complete between 9 and 12 assessment tasks that are designed to demonstrate their learning about literacy education. As well, PSPTs complete tutorial tasks and class readings, engage in online and face-to-face academic discussions, attend lectures and workshops, etc. For this chapter, we selected only three examples of the practices

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**Figure 4. Record of children’s literacy background**

<table>
<thead>
<tr>
<th>Child</th>
<th>Sex</th>
<th>Year Level</th>
<th>Favourite Book</th>
<th>Likes</th>
<th>What technology do they use?</th>
<th>Suitable learning approaches based on Child’s funds of knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child A</td>
<td>Male</td>
<td>2</td>
<td>Captain Underpants</td>
<td>Sport - football and soccer, Playing his DS, Cooking, St Kilda Football Club, Making things</td>
<td>Ipod touch, DS, X-Box, TV, Computer</td>
<td>Child A requires critical thinking work that will keep him focused and on task. He enjoys playing critical thinking games on his DS, which assists in his comprehension and learning abilities.</td>
</tr>
<tr>
<td>Child B</td>
<td>Male</td>
<td>1</td>
<td>Are You my Mother?</td>
<td>Drawing cars, Playing outside with friends, Playing X-Box</td>
<td>X-Box 360, Mobile phone, Computer, Ipod, TV</td>
<td>Child B would benefit from a more hands on approach. Visual aids would help him to understand new concepts, so that he can out things together and physically figure out how things work.</td>
</tr>
<tr>
<td>Child C</td>
<td>Male</td>
<td>1</td>
<td>The Very Hungry Caterpillar</td>
<td>Books, Power miner lego, The future, How things work</td>
<td>Playstation, Computer, iPhone, Wii, TV</td>
<td>Child C would benefit from visual aids to assist in learning. Having him use illustrations to support his writing could lead to a more comprehensive learning tool for him.</td>
</tr>
<tr>
<td>Child D</td>
<td>Male</td>
<td>1</td>
<td>Narnia Chronicles</td>
<td></td>
<td></td>
<td>Child D appears to be more lateral in his learning and would benefit from research based work, where they are required to find the information. He would enjoy work catered to involve critical thinking.</td>
</tr>
</tbody>
</table>

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we use that require engagement with a variety of literacy modes and resources. In the section that follows, we map these practices to illustrate how they respond to the regulatory context.

National Professional Standards

The National Professional Standards at Graduate level are designed as measures of capacity for PSPTs as they complete their study and cover seven focus areas (see Table 1).

To pass the degree program and become a qualified Graduate Teacher all seven standards must be met. Under each standard are multiple descriptors (see website http://www.teacherstandards.aiitsl.edu.au/CareerStage/GraduateTeachers/Standardsfor more details). Guided by the standards, PSPTs work in the areas of developing professional knowledge (GTS 1 and 2), professional practice (GTS 3, 4 and 5) and professional engagement (GTS 6 and 7). The three case studies have been aligned with GTS 1, 2 and 3. This alignment is sketched briefly below by matching an illustrative example from each case study with a descriptor from one of the three standards.

National Professional Standard 1.1 claims that “pre-service teachers are required to demonstrate knowledge and understanding of physical, social and intellectual development and characteristics of students and how these may affect learning”. The example of the Digital Story in Case Study 2 demonstrates how the PSPTs have been stimulated to collect data on their own learning history to examine potential connections between home and school literacies. In the National Professional Standard 2.1 pre-service teachers are required to “demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area”. In relation to the English teaching area, PSPTs must learn about the English language and “how it is manipulated to meet higher-order social, aesthetic and cultural literacy demands”. The example of the Literature Circle activity in Case Study 1 demonstrates that the PSPT has learned how to identify narrative devices and how to scaffold collaborative dialogue in groups stimulated by responses to literary text that promote higher order thinking. National Professional Standard 3.4 states “Demonstrate knowledge of a range of resources, including ICT that engage students in their learning”. Through the construction of a wiki in Case Study 3 PSPTs illustrate their capabilities in working with digital literacies across different modes and software platforms to incorporate all the required elements of a well functioning communication tool such as images, text, hyperlinks and video. The purpose of the wiki as a record of research into the use of ICT in early literacy development compounds the awareness the PSPTs develop about ICT through ICT.

Table 1. National Professional Standards

<table>
<thead>
<tr>
<th>Standard No.</th>
<th>Standard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 1</td>
<td>Know students and how they learn</td>
</tr>
<tr>
<td>Standard 2</td>
<td>Know the content and how to teach it</td>
</tr>
<tr>
<td>Standard 3</td>
<td>Plan for and implement effective teaching and learning</td>
</tr>
<tr>
<td>Standard 4</td>
<td>Create and maintain supportive and safe learning environments</td>
</tr>
<tr>
<td>Standard 5</td>
<td>Assess, provide feedback and report on student learning</td>
</tr>
<tr>
<td>Standard 6</td>
<td>Engage in professional learning</td>
</tr>
<tr>
<td>Standard 7</td>
<td>Engage professionally with colleagues, parents/carers and the community</td>
</tr>
</tbody>
</table>

ICT Elaborations for Graduate Teacher Standards

The ICT Elaborations for the National Professional Standards at Graduate level were designed as extensions of the measures of capacity for PSPTs already listed under the National Professional Standards. The elaborations mirror the seven standards as described above. Illustrative examples taken from the three case studies are given below.
to show how they align with descriptors from GTS 1, 2 and 3.

The AITSL elaboration for Graduate Teacher standards 2.6 refers to the use of Information and Communication Technology (ICT). The use of ICT in Case Study 3 has a high profile in two ways; the content and the presentation of the task. PSPTs demonstrate their “ability to use a range of digital resources and tools in ways that enable deeper engagement with curriculum and support a range of approaches to learning” as they research the use of ICTs in professional experience classrooms and as they create their wiki to present their data. In creating their wiki they meet the requirement of elaboration 3.5 as they “Use a range of digital resources and tools to support effective communication of relevant information and ideas, taking into account individual students’ learning needs and backgrounds, the learning context, and teaching area content.” They are required to synthesize information and critique the use of ICTs. In Case Study 2 PSPTs successfully demonstrate elaboration 2.2 as they create digital stories by selecting appropriate images, music and record a voiceover based on a written script. Through the creation of digital stories that describe the formation of their literate identities the PSPTs “Demonstrate the ability to select and organize digital content in relation to relevant curriculum”. In Case Study 1 ICT has a lower profile yet its use is key to the phase of reflection that rounds off the assessment. PSPTs demonstrate elaboration 3.5 as they capture their peers’ interactions using digital technologies and then refer to the artifact created as proof of their pedagogic awareness in their final report.

While there are differences in emphasis on ICT across the case studies in each of the learning contexts described above, students are working within elaboration 3.1. The PSPTs “Demonstrate knowledge and understanding of how the use of digital resources and tools can support approaches to teaching that enable all students to pursue their individual curiosity, set their own educational goals, manage their own learning, choose the way they respond to tasks and challenges and assess their own progress” when they reflect on their own individual view of literacy and learning through their use of ICT.

The Australian Curriculum

The Australian Curriculum English has been structured around three strands: Language, Literacy and Literature (ACARA, 2012):

- **Language**: Involves the development of a coherent, dynamic and evolving body of knowledge about the English language and how it works.
- **Literature**: Students learn to interpret, appreciate, evaluate and create literary texts such as narrative, poetry, prose, plays, film and multimodal texts, in spoken, print and digital/online contexts.
- **Literacy**: Students apply their English skills and knowledge to read, view, speak, listen to, write and create a growing repertoire of texts (ACARA, 2012).

In the curriculum framework under each of the strands, descriptors are grouped by year, from the Foundation year of schooling through to Year 10, specifying the content teachers are expected to teach coded according to the strand. For example, the code ACELAnxxx stands for Australian Curriculum English Language where nxxx stands for a unique numerical identifier. The alignment of the case studies with this curriculum is sketched briefly below by matching an illustrative example with at least one content descriptor from one of the three strands. The level of descriptors chosen is from years five and six to demonstrate that by the end of their degrees the PSPTs are capable of teaching across the years of primary schooling in Australia.

In the Literacy strand of the Australian Curriculum: English, the content descriptor ACELY1709
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requires students to “participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions”. The Literature Circle task in Case Study 1 gives the pre-service teachers experience in how dialogue about literary texts operate for students as well as teachers as they observe the impact that their prompts have on discussion of the text. By leading other PSPTs to respond to the expression of ideology through language and image, the student in Case Study 1 also demonstrates ACELT1609 “Recognise that ideas in literary texts can be conveyed from different viewpoints, which can lead to different kinds of interpretations and responses”. The Digital Story task in Case Study 2 can be matched to content descriptor ACELY1816 “Use interaction skills, varying conventions of spoken interactions such as voice volume, tone, pitch and pace, according to group size, formality of interaction and needs and expertise of the audience” as they presented their literate histories through the use of scripted oral language combined with images. The opportunity for students to reflect on their own literacy competencies helped them to recognize their strengths and their professional needs as well as meet ACELA1504 “Understand how texts vary in purpose, structure and topic as well as the degree of formality”. The Wikis in Case Study 3 demonstrate that PSPTs met ACELY1714 which requires them to “Plan, draft and publish imaginative, informative and persuasive texts, choosing and experimenting with text structures, language features, images and digital resources appropriate to purpose and audience”. The format of the Wiki particularly suits this descriptor. In addition as the PSPTs were reporting on the literacy practices of beginning readers they were using language “to move beyond making bare assertions and take account of differing perspectives and points of view, which meets the requirements for ACELA1502.

CONCLUSION

We have explored how the literacy capabilities of PSPTs are scaffolded in the pedagogical and assessment practices with which we engage as pre-service literacy educators. The variety in assessment tasks shows that each teacher education institution is informed by particular readings of “what counts” as evidence of literacy capability. The brief mapping exercise across three case studies using three regulatory mechanisms demonstrates the diverse nature of assessment and learning opportunities available to PSPTs in our degrees. As well, all three PSPT education programs value traditional literacy practices and the need to prepare PSPTs to teach traditional basic literacy skills through explicit modeling of core concepts. Case studies were selected to demonstrate how these education programs recognize the urgent need for PSPTs to become familiar with a broader view of literacy than what is represented in Australian schools. Rather than assume that current PSPTs are citizens of the 21st century born with knowledge of digital literacies, these programs scaffold learners to develop creative capacity and critical awareness of the kinds of literacies required in the digital age (Exley & Mills, 2012; Kalantzis & Cope, 2012; Kervin & Derewianka, 2011; Walsh & Simpson, in press).

It would be easy to end the discussion at the point of compliance showing how the PSPT programs have met regulations. The students clearly show professional literacy capabilities through practical teaching strategies based on content knowledge. However, our investigation was driven by a greater purpose. On entry to PSPT education AITSL requires applicants to demonstrate “capacity to engage effectively with a rigorous higher education program and to carry out the intellectual demands of teaching itself” (AITSL, 2011 p.12). Our contention is that the standards currently used to measure the achievements that graduate teachers display by the end of their degrees, do not match the diverse literacy capabilities
necessary for teaching nor the flexibility that is demanded in the current classroom climate (Cope & Kalantzis, 2009; Wells & Reynolds, 2005). The regulatory documents only provide partial insight into the ways the PSPTs have developed professional, academic and personal literacies as they meet the National Professional Standards, including the ICT Elaborated Graduate Teacher Standards, and The Australian Curriculum.

Our examination of the three programs has shown how each one provides learning experiences that do more than just help students meet standardized targets. As a result of study in these contexts, students have learned how to adapt knowledge of multimodality to a variety of learning needs (Honan, 2010; Kress, 2010). Through sharing multimodal texts built around image, writing and speech and critically examining their own and the literacy practices of others through digital technologies the students show development in professional and academic awareness as well as personal facility with technology. This blend prepares them not to have perfect control over the myriad of literacy requirements of teachers in contemporary classrooms but to have developed sufficient capability to be able to identify appropriate modes and platforms of communication according to the social purpose of the teaching task.

The innovation of this kind of approach to pre-service education is that the PSPTs take on a literate identity composed of personal, professional and academic literacies (Devereux & Wilson, 2008), which is far more than a reductive subset of literacy skills. As researchers and teacher educators, we know that decontextualized learning does not engage the learner. One strength of all three case studies is the placement of the learner at the center of their learning experience. The contrast with decontextualized testing of skills could not be greater. The recognition of alternative modes of achievement is valued rather than putting boundaries around what could be the rich potential of their contextualized, personalized literacy development as teachers through the introduction of the proposed pre-registration testing regime discussed at the beginning of this chapter.

There are still many challenges faced by teacher educators and PSPTs that have emerged from the case studies. For example, for some PSPTs the challenge is faced in the more traditional areas of grammar and spelling. The level of linguistic knowledge required is high yet the length of time for comprehensive development is relatively short. For some PSPTs the greatest challenge is in the area of digital technologies. Issues of equity mean that some do not have easy access to the same resources as others. Some PSPTs have not had prior experience with technology and face some initial discomfort when required to use it. These issues tell us more about the limits that teacher education faces in terms of resources, support staff, varying student needs and time for teaching, than the difficult topic of how literacy is conceptualized. However, the point here is the variety of challenges, levels of ability and experiences cannot be addressed through a narrow simplistic solution such as external testing, or standalone literacy skills development workshops, or short IT workshops that purport to upskill PSPTs in their uses of new technologies.

To address these issues we return to our initial framing ideas about the complexity of teaching in contemporary systems of education to ask: How successfully can PSPTs develop, and be assessed on, newly emerging definitions of literacy/ies under conditions that operate within mechanisms of power of restrictive and controlling testing regimes?

We have shown the inherent tension of trying to answer a question such as this as institutions offering initial teacher education must meet regulatory conditions or run the risk of losing official approval. As stated at the beginning of the chapter, teacher educators often work within conflicting agendas in English curriculum and literacy teaching and learning. Yet, when standards and regulations limit what is needed for the
future, teacher educators often take the bold stand of teaching around the edges of the curriculum and beyond the syllabus so that our PSPTs do not become a “series of statistical points that bear no relation to practices for delivering good teaching” (Thompson & Cook, 2012, p.582).

It is our responsibility, after all, to prepare teachers to teach the children of the future, not of the past and if that means reframing concepts about literacy then that is what we must work towards.

REFERENCES


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**KEY TERMS AND DEFINITIONS**

**ACARA:** The Australian Curriculum, Assessment and Reporting Authority was set up as an independent body to support the development of a national curriculum, a national assessment program and a national data collection and reporting program relevant to all Australian schools.

**AITSL:** The Australian Institute for Teaching and School Leadership is a federal government initiative designed to improve the level of professionalism in Australian schools through the introduction of standards and provision of professional development.

**Multimodal Digital Texts:** A text usually designed to be viewed on a digital screen that integrates a variety of semiotic modes (visual, linguistic, gestural, audio, spatial) to make meaning.

**NAPLAN:** The National Assessment Plan Literacy and Numeracy is an annual assessment of literacy and numeracy skills of students in Years 3, 5, 7 and 9.

**New Literacies and New Literacy Studies:** A sociocultural view of literacy that locates literacy practices within the social and cultural contexts in which they occur which means literacies are constantly changing and developing new patterns and processes. In many cases these ‘new’ literacies are now being developed within digital spaces.

**OECD:** The Organisation for Economic Co-operation and Development is an international organisation which aims to support governments address economic, social and governance challenges in a global context.

**Pre-Service Primary Teachers (PSPTs):** In Australia, schooling from the age of 5/6 through to 12/13 is named ‘primary’ schooling, equivalent to US elementary schooling. We use the term PSPTs to refer to the university students who are enrolled in a four year pre-service degree that graduates to teach in primary schools.

**Regulatory Mechanisms/Mechanisms of Control:** Drawing on the work of Michel Foucault and Gilles Deleuze, we use these terms to describe the policies and documents created to control and regulate the operations and decisions made about teacher education.
TEQSA: The Tertiary Education Quality and Standards Agency is an independent body set up to be a national regulator of the higher education sector in Australia.

TTF: Teaching Teachers for the Future is a project set up with the goal of improving the proficiency of pre-service teachers in the use of ICT in education.

Wiki: a web site that can be created relatively quickly online without the need for any particular computer software which only requires the creator to have skills similar to those required to create a formatted text file.

ENDNOTES

1 In the Australian context, ‘Indigenous’ is the term used to represent Aboriginal and Torres Strait Islander peoples.

2 In the Australian context, the nomenclature of ‘unit’ describes a course of study typically 13 or 14 weeks in duration with approximately 10 hour per week study commitment.

3 A small excerpt from the storyboard (4 of the final 11 ‘pages’) is included here to provide an illustration of the interactions between images and text.